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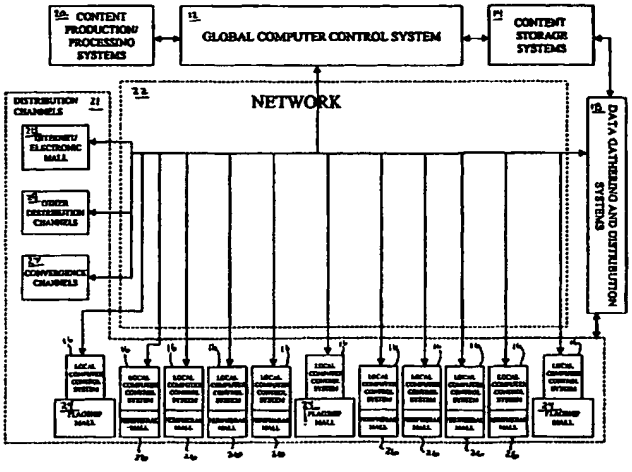

(57) Abstract: A system for seamlessly integrating multiple new and existing product, service, entertainment, programming and information distribution channels including physical and electronic malls through a computer controlled fiber optic broadband network. The system facilitates the delivery of entertainment, brand programming, products and services to consumers throughout the world, twenty-four hours a day, seven days a week, employing and seamlessly integrating the existing physical retail mall infrastructure and the relatively new electronic mall accessible over the Internet.

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IMPROVED SYSTEM FOR SEAMLESSLY INTEGRATING MULTIPLE NEW AND EXISTING PRODUCT, SERVICE, ENTERTAINMENT, PROGRAMMING AND INFORMATION DISTRIBUTION CHANNELS INCLUDING PHYSICAL AND ELECTRONIC MALLS

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TECHNICAL FIELD

The present invention relates in general to a system for seamlessly integrating multiple distribution channels, and in particular to an improved system for seamlessly integrating multiple new and existing product, service, entertainment, programming and information distribution channels, including physical and electronic malls, through a computer controlled network focused on and accessible by consumers.

BACKGROUND ART

The retail industry in the United States and throughout the world is undergoing dramatic change due to new technology, new shopping options and new consumer shopping preferences. New technology such as the Internet and the relatively recent exponential growth of shopping options such as catalog shopping, large discount stores (e.g., Wal-Mart and Circuit City), and other non-mall-based stores have drawn consumers away from malls in the United States. Traditional mall-based retailers (e.g., The Gap), have also opened stand-alone and streetfront stores in strip shopping

centers, urban retail centers and tourist locations. These stores have further drawn consumers away from malls in the United States. The combination of these changes in the retail industry is significantly affecting malls in the United States. While business is still increasing, it is increasing at a slower rate then previously experienced (i.e., the rate of growth is declining). Consumers are attracted to the shopping alternatives and are visiting malls less frequently, visiting fewer stores per visit to the malls and are staying at the malls for shorter periods of time.

The decline in the growth rate of business in malls in the United States is substantiated by telling statistics. Statistics show that consumer spending in malls increased 17.7% between 1988 and 1991; however, between 1992 and 1995, consumer spending in malls only grew 1.1%. Statistics further show that: (i) the average visit frequency to malls in the United States has declined from a high of 3.7 visits per month in 1989 to 3.0 visits in 1996; (ii) the average visit frequency to stores in malls decreased from a high of 3.0 in 1987 to 2.5 in 1996; and (iii) the average visit duration to malls in the United States in 1996 was 69 minutes, compared to 75 minutes in 1986 and 90 minutes in 1982.

Mall owners have taken certain steps to reverse these trends. Some malls have installed televisions in the common areas of the malls. Other mall owners have expended substantial sums on branding the malls. However, these programs do not attract consumers to the malls; rather, similar to the television broadcast in airports and other transportation facilities, they briefly occupy consumers' time and attention while the consumers are already in the malls. Internet access terminals have also been installed in some malls. These terminals enable consumers to access the Internet and obtain information on products from multiple web sites spread out across the Internet. However, such products may or may not be available at the malls. The

internet accessible retailers do not pay the mall owners and take away sales from the mall tenants, therefore adding to the decline in sales at malls and mall growth. Malls have also developed web sites on the Internet which provide general information such as travel instructions on how to get to the malls. These web sites do not organize product information or purchasing opportunities, nor do they specialize content toward consumer interests. These systems do not materially integrate the malls and the Internet, and have not stopped or reversed the decline of malls.

Generally, it should be appreciated that as Internet sales increase, mall sales may decrease. Such decreased sales results in many in-mall retailers losing a critical margin of business, which may mean the difference between success and failure. Any failures add to the decline in mall growth.

Certain malls run limited promotions such as new automobile displays, arts and craft shows, sidewalk sales, mini-concerts and holiday programs. These promotions draw some consumers to the malls more often, but lack the continuous attraction necessary to bring consumers back to the malls and to encourage consumers to spend more time at the malls on a regular basis. Other malls have added movie theaters which attract people to the malls. However, many people attend the movies after the stores in the malls are closed. People also attend the movies and leave the malls without visiting the stores in the malls. The malls have not drawn these movie goers into the stores. The various efforts taken by malls to stop or reverse the above trends have had a limited effect. These patchwork solutions have not solved the underlying problem created by new technology, new shopping options and new consumer shopping preferences. To survive in the rapidly changing retail industry, mall owners must find new ways to increase the number of consumers who visit their

malls on a regular basis and increase the amount of time those consumers spend in their malls.

Similar to the retail industry, the entertainment industry is undergoing a period of dramatic change due in part to the availability of new technology, changing consumer preferences and rising production costs. The current explosion in cable and Internet program distribution capabilities is creating an ever-growing demand for substantial volumes of programming or content including programming for the Internet and other broadcasts around the world, twenty-four hours per day, seven days a week. Consumers around the world are becoming more sophisticated and are demanding higher quality, more entertaining and more personalized or specialized programming or content. The problems caused by this growing demand for quality specialized content is amplified by the rising costs of content production and marketing. Statistics show that the average cost of a movie in 1997 was $75.7 million, and the average per episode cost of a television series in 1998 was $1.4 million. To meet the increasing demands created by new technology and globally rising consumer expectations, the entertainment industry needs to rapidly create substantial quantities of quality content or programming including retail programming, find new unexploited platforms and environments in which to display new and existing content, and control the upwardly spiraling production and distribution costs. The entertainment industry also needs more platforms for distributing broadband entertainment.

The consumer products industry, specifically including consumer brand companies, is also undergoing a period of rapid change due in part to new technology which empowers consumers, changing consumer preferences, changing consumer purchasing drivers and a global economy. Consumers are much more sophisticated

today than in the past. Consumer behavior, including how consumers around the world shop for products, entertain themselves and make buying decisions, is difficult to predict and even more difficult to influence or change. Companies which provide consumer products and entertainment are constantly seeking new apparatus, methods, systems and other ways to influence consumers, reach consumers, enable consumers to purchase products, predict consumer purchasing decisions and habits and coordinate marketing efforts toward consumers. Consumer brand companies make substantial investments in building perceptions of their brands, but have few ideal presentation vehicles to communicate their message as they desire. Consumer product companies are also increasingly attempting to influence consumer purchase choices by associating their brands with perceived desirable lifestyles and habits and by creating retail programming, which promotes products and services in an entertaining and engaging manner. Such retail programming conveys brand messages to consumers and tailors the messages to consumer lifestyles.

An additional problem facing the retail, entertainment and consumer products industries is the lack of coordination, interconnectivity and integration among the various communication and distribution channels accessible by consumers. Consumers can access products, services, entertainment, programming and information through existing distribution channels such as the physical malls, the Internet, television, radio and wireless communication. However, these distribution channels are not coordinated, interconnected or integrated to interact with consumers.

The explosion of electronic commerce or "e-commerce" via the Internet has also created problems in the retail, entertainment and consumer products industries. One problem with electronic commerce is its two dimensional nature. Consumers are unable to touch, taste, test, smell or sample certain products available over the

Internet. This limits the consumers desire to purchase those products using e-commerce. Accordingly, there is a need for providing a location in which certain products available through e-commerce are made available to consumers.

The present invention recognizes the above described problems in the retail, entertainment, consumer products and on-line retail and other on-line merchant and service providers, industries are, to a large extent, related problems. The primary problem, simply put, is how to continually entertain, influence and provide products, services and information conveniently to consumers around the world within the existing physical retail infrastructure and existing distribution channels in view of the rapid explosion of new technology. There is accordingly a need for a system which addresses this problem and the problems arising from changes in the retail, entertainment and consumer product industries.

DISCLOSURE OF THE INVENTION

The present invention solves the above problems by facilitating the delivery of products, services, entertainment, programming and information to consumers throughout the world, twenty-four hours a day, seven days a week, employing new and existing distribution channels including the existing physical retail mall infrastructure, new physical mall infrastructure, new and existing electronic commerce infrastructure and other distribution channels. The present invention provides an improved system for seamlessly integrating multiple new and existing product, service, entertainment, programming and information distribution channels, including physical and electronic malls, through a computer controlled network focused on and accessible by consumers. The improved system of the present invention for seamlessly integrating multiple new and existing product, service, entertainment,

programming and information distribution channels, including physical and electronic malls, is referred to herein for brevity as the "integration system" or the "system." However, the scope of the invention is not intended to be limited by the term "integration system" or any other abbreviated terms used herein to describe the present invention or components thereof. For purposes of this application, a "mall" is defined as a publicly accessible place which includes a plurality of areas in which consumers can view, purchase or access products, services, entertainment, programming or information of different retailers or businesses. It should be appreciated that one or more of the Figures of this application include one or more of the following trademarks which are not part of the system of the present invention: (a) LYTE; and (b) LYTEHOUSE.

The integration system generally includes a global computer control system, a content production/processing system, a consumer data gathering and distribution system, content storage systems, a plurality of local computer control systems, a computer controlled distribution and communication network and the multiple new and existing distribution channels. The new distribution channels include new flagship malls, new digital stores, new e-laboratories, new one-off stores, new convergence channels, new dedicated television broadcast stations, new video broadcast networks, new web sites in the electronic mall on the Internet and new print media including a dedicated monthly magazine. The existing distribution channels include the currently existing physical malls, web sites on the Internet, television broadcast stations, radio broadcast stations, hardwired and wireless telephone and internet systems, other wireless communication systems, and mail and package delivery systems. The integration system integrates these multiple distribution channels by establishing a plurality of interconnections between these distribution channels accessible by

consumers. The global computer control system, consumer data gathering and distribution system, local computer control systems, content production/processing systems, computer controlled distribution and communication network, and the content storage systems facilitate communication and distribution between these distribution channels on a real-time or delayed basis.

The integration system of the present invention integrates the distribution channels to create a plurality of physical and virtual gathering points and thereby create a plurality of communities of interest for the users of the system. A central point of these communities of interest are at the physical malls. The present invention draws people to the communities of interest and thus the malls.

The integration system is adapted to distribute an event (or the video/audio and embridged data of an event) at any of the flagship malls, peripheral malls or the electronic mall to any one or more of the other distribution channels including the flagship malls, the peripheral malls and the electronic mall. The content production/processing and distributing systems and the content storage systems store, index and re-purpose the event as necessary for broadcast through selected platforms or channels. By distributing the event, on a real-time or delayed basis, the integration system seamlessly integrates the distribution channels. This enables consumers in other states or countries, to access the events occurring at one of the flagship malls, peripheral malls or electronic mall via the other distribution channels such as a nearby mall or home computers connected to the Internet. The integration system also records, stores and indexes the event for subsequent distribution of the event over the computer controlled distribution and communication network. The integration system may simultaneously record other events occurring at any of the flagship malls (or stores), peripheral malls (or stores) and the electronic mall (or

stores). These events may also be broadcast through the computer controlled distribution and communication network to the various distribution channels. The integration system of the present invention thereby seamlessly integrates the physical and electronic malls or stores by making all events available to consumers at the flagship malls and stores, the peripheral malls and stores and the electronic mall and stores on a real time or delayed basis.

The integration system also delivers content from the events and other programming to consumers through existing distribution channels such as radio, television, fiber and wireless communication and print media components which encourage consumers to visit the physical and electronic malls and attract consumers to the physical malls and electronic mall. The integration system thereby enables global brand companies to engage consumers through continuous personalized programming, delivered over multiple platforms, reaching consumers at multiple levels through various technologies and in various locations including at the point-of-purchase.

The integration system further facilitates the sale and demonstration of products in a mixed physical and virtual environment. Specifically, the integration system includes digital stores in the physical flagship and peripheral malls. These stores are preferably not (i) leased to a single retailer for an extended period (although they could be), (ii) dedicated to one type of product retailer or (iii) built with the customary store fixtures. Rather, the digital stores are configured to adopt a desired temporary motif for selling and demonstrating certain products. The digital stores include plasma screen walls or other suitable video (and audio) display apparatus for displaying content. This apparatus enables the motif or virtual environment of the digital store to frequently change in conjunction with the products or services being

sold or demonstrated in the digital store. The digital stores also include product displays for displaying the physical products. The digital stores at the physical malls are thereby adapted to sell and demonstrate certain products and services in a mixed physical and virtual environment, which solves the problem of goods available only through the Internet not having a physical representation in the physical stores. The digital stores also provide a plurality of communities of interest where people having similar interest can meet, relax and explore their common interest including multiple user internet exploration. The digital stores also enable businesses to reach and brand their products to a community of interest. The present invention also enables aggregators (such as web based electronic retailers with no physical presence) to reach consumers in a physical environment.

The integration system establishes multiple interconnections between the Internet or electronic mall and the other distribution channels including a plurality of connections with the physical malls. For instance, the integration system includes an e-laboratory at the flagships for consumer product companies to test their new consumer products on consumers. The integration system also includes one-off stores in the physical flagship and peripheral malls for temporary displaying of products available through the electronic mall in a physical environment.

The integration system includes a system-wide data gathering and distribution system which interconnects the multiple distribution channels. The consumer data gathering and distribution system is presented to the consumers in the form of an affinity program or system. The affinity system rewards consumers for using the integration system, collects data and information about consumer's use of the integration system, collects data regarding the consumer's preferences and purchasing habits, coordinates and personalizes certain distribution channels based

on the consumer's preferences and purchasing habits and provides incentives to consumers to use the various distribution channels.

The integration system enables consumers to participate in the production of the content or programming through the infrastructure of the physical malls, delivers content to consumers on a continuous basis through multiple distribution channels, and enables consumers to access desired content at any time through the multiple distribution channels of the integration system. The integration system produces and processes substantial quantities of relatively inexpensive, high quality content or programming which preferably includes aggregated consumer product and entertainment brand messages. The integration system employs multiple platforms or technologies to globally distribute this content to consumers and make this content readily accessible by consumers. By enabling consumers to participate in the production of this content and through the other mechanisms of the integration system described below, the integration system brings consumers to the malls by providing an enhanced shopping environment which malls offer to consumers and by providing a richer range of products, services and attractions at the malls.

It is therefore an object of the present invention to provide a system for seamlessly integrating multiple new and existing product, service, entertainment, programming and information distribution channels including a plurality of physical and electronic malls through a computer controlled distribution and communication network.

Other objects, features and advantages of the present invention will be apparent from the following detailed disclosure, taken in conjunction with the accompanying sheets of drawings, wherein like reference numerals refer to like parts.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic view of the system of the present invention for seamlessly integrating multiple new and existing product, service, entertainment, programming and information distribution channels including physical and electronic malls through a computer controlled distribution and communication network (the "integration system");

Fig. 2 is a schematic diagram of a configuration of a global computer control system in the integration system of the present invention;

Fig. 3 is a schematic diagram of a configuration of a local computer control system in the integration system of the present invention;

Fig. 4 is a schematic diagram illustrating the affinity in the integration system of the present invention;

Fig. 5 is a schematic diagram of one preferred embodiment of the system of the present invention;

Fig. 6 is a schematic diagram further illustrating the preferred embodiment of the system in Fig. 5 which depicts the communication between the Network Operating Center ("NOC") and the credit card processor, partners and suppliers;

Fig. 7 is a high level schematic diagram illustrating the channels supported by the NOC in this embodiment of the integration system of the present invention;

Fig. 8 is a schematic diagram illustrating the architecture and interfaces between the product, service, entertainment, programming and information distribution channels illustrated in Figs. 1 and 5 in this embodiment of the integration system of the present invention;

Figs. 9A and 9B are detailed schematic diagrams of the logical architecture of Fig. 8 ;

Fig. 10 is a detailed schematic diagram of the logical architecture generally illustrated in this embodiment of the integration system of the present invention;

Fig. 11 is a schematic diagram illustrating the local area network at the network operating center in this embodiment of the integration system of the present invention;

Fig. 12 is a schematic diagram of a configuration of a flagship mall in the integration system of the present invention;

Fig. 13 is a high level schematic diagram illustrating the architecture of this preferred embodiment of the mall monitor or in-mall video network and the internet access or mall lumen terminals in the physical malls which is supported by the NOC;

Fig. 14 is a schematic diagram of one configuration of a digital store in the integration system of the present invention;

Fig. 15 is a perspective view of an alternative embodiment or embodiment of a digital store in the integration system of the present invention;

Fig. 16 is a perspective view of another alternative configuration or embodiment of a digital store in the integration system of the present invention;

Fig. 17A is an elevational view of the storefront video wall of one preferred embodiment of the digital store in the integration system of the present invention;

Fig. 17B is a plan view of the rounded store portal of the embodiment of the digital store of Fig. 17A;

Fig. 17C is an elevational view in section of the cylindrical store portal of Fig. 17B taken along line 17C-17C;

Fig. 18A is a perspective view of the storefront video wall of Fig. 17A displaying one or more video images;

Fig. 18B is an elevational view of the storefront video wall of Fig. 18A displaying the interior of the store and the video projections;

Fig. 19 is a schematic diagram illustrating the architecture of the storefront video wall of one preferred embodiment of the digital store of the integration system of the present invention;

Fig. 20A is a plan diagram of the interior configuration of the preferred embodiment of the digital store in the integration system of the present invention;

Figs. 20B through 20K are perspective diagrams of the interior configuration of the preferred embodiment of the digital store of Fig. 20A taken from different perspectives;

Fig. 21 is a schematic diagram of the LAN utilized in one preferred embodiment of the digital store in the integration system of the present invention;

Fig. 22 is a high level schematic diagram of the architecture of one preferred embodiment of the digital store in the integration system of the present invention;

Fig. 23 is a detailed schematic diagram of the architecture of the embodiment of the digital store of Fig. 22;

Fig. 24 is a second detailed schematic diagram of the architecture of the digital store similar to Fig. 23;

Fig. 25 is a schematic diagram of the architecture of the point of sale ("POS") system of the digital store in one preferred embodiment of the integration system of the present invention;

Fig. 26 is a perspective view of an embodiment of the convergence channel of the integration system of the present invention;

Fig. 27 is a front and side elevational illustrational or graphical view of a preferred embodiment of the convergence channel or mall lumen of the integration system of the present invention;

Fig. 28 is a schematic diagram an embodiment of a peripheral mall in the integration system of the present invention;

Fig. 29 is a schematic diagram of one embodiment of an electronic mall in the integration system of the present invention;

Fig 30 is a high level schematic diagram of the architecture of one preferred embodiment of the internet site of the integration system of the present invention;

Fig. 31 is a detailed schematic diagram of the architecture of the preferred embodiment of the internet site of Fig. 30;

Fig. 32 is a schematic diagram of a preferred embodiment of an e-mail system in the integration system of the present;

Fig. 33 is a schematic diagram of a preferred embodiment of a chat room system in the integration system of the present invention;

Fig. 34 is a schematic diagram of a preferred embodiment of a streaming media system in the integration system of the present invention;

Fig. 35 is a schematic diagram of a preferred embodiment of the video conference management architecture in the integration system of the present invention;

Fig. 36 is a schematic diagram of a preferred embodiment of an ATM multicasting architecture in the integration system of the present invention;

Fig. 37 is a schematic diagram of a preferred embodiment of a single multipoint video conferencing of the present invention;

Fig. 38 is a schematic diagram of a preferred embodiment of Multiple multipoint control of the integration system of the present invention 38;

Fig. 39 is a schematic diagram of a preferred embodiment of an affinity system of the integration system of the present invention;

Fig 40 is a schematic diagram of one embodiment of a content production/ processing system in the integration system of the present invention;

Fig. 41 is a high level schematic diagram of a preferred embodiment of the content control system in the integration system of the present invention;

Fig. 42 is a schematic diagram of a preferred embodiment of the content control architecture in the integration system of the present invention;

Fig. 43 is a schematic diagram of a preferred embodiment of the store content presentation architecture in the integration system of the present invention;

Fig. 44 is a high level schematic diagram of a preferred embodiment of the process for content delivery management in the integration system of the present invention;

Fig. 45 is a high level schematic diagram of a preferred embodiment of the process for content planning in the integration system of the present invention;

Fig. 46 is a high level schematic diagram of a preferred embodiment of the process for content project mobilization in the integration system of the present invention;

Fig. 47 is a high level schematic diagram of a preferred embodiment of the process for content production in the integration system of the present invention;

Fig. 48 is a high level schematic diagram of a preferred embodiment of the process for content delivery in the integration system of the present invention;

Fig. 49 is a schematic diagram of an embodiment of the other distribution channels in the integration system of the present invention;

Fig. 50 is a high level schematic diagram of one preferred embodiment of the teleservices center or system in the integration system of the present invention;

Fig. 51 is a schematic diagram of a preferred embodiment of the order management system in the integration system of the present invention

Fig. 52 is a schematic diagram of a preferred embodiment of the architecture for a multi-server system architecture in the integration system of the present invention;

Fig. 53 is a high level schematic diagram of a preferred embodiment of the personalization application architecture in the integration system of the present invention;

Fig. 54 is a schematic diagram of a preferred embodiment of the affiliate shopping model in the integration system of the present invention;

Fig. 55 is a schematic diagram of a preferred embodiment of the marketing support systems in the integration system of the present invention; and

Fig. 56 is a schematic diagram of a preferred embodiment of the infrastructure control system in the integration system of the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

Referring now to the drawings, and particularly to Fig. 1, the apparatus for seamlessly integrating multiple new and existing product, service, entertainment, programming and information distribution channels including physical and electronic malls, referred to herein as the integration system, is generally indicated by numeral 10. The integration system of the present invention is a global integrated multiple channel retailing/entertainment network of seamlessly integrated physical and electronic channels which enable retailers to deliver compelling entertainment and shopping experiences to consumers. The integration system integrates entertainment content production into a retail environment to create a continuous high-excitement environment. The integration system extends across the physical venues to the Internet and the other distribution channels to encourage consumers to visit the physical malls. The integration system uses cross-marketing programming to leverage the marketing efforts of popular entertainment brands, global branded retailers and restaurants, and celebrities through multiple distribution channels. The integration system provides an integrated retail experience in which physical and electronic distribution channels work in concert to provide consumers an unprecedented level of choice and personalization. The integration system also makes consumers the stars of continuously fresh and exciting programming. The integration system also provides consumers with ready access to goods and services not otherwise available in physical malls.

More specifically, the integration system 10 includes a global computer control system 12, content storage systems 14, a plurality of local computer control systems 16, consumer data gathering and distribution systems 18, a content production/processing system 20, a computer controlled distribution and

communication network 22 and a plurality of new and existing product, service, entertainment, programming and information distribution channels 21 including flagship malls 24, peripheral malls 26, the electronic mall 28, the convergence channel 27 and the other distribution channels 29 described below. The global computer control system 12 primarily coordinates and controls the production, transmission, reception, re-purposing, storage and distribution of product, service, entertainment, information and programming or content (referred to herein as "content") in the integration system 10. The integration system 10 distributes the content on a real-time or delayed basis via the computer controlled distribution and communication network 22 to seamlessly integrate multiple distribution channels.

The Computer Controlled Distribution and Communication Network

The computer controlled distribution and communication network 22 is alternatively referred to herein as the "distribution network," the "communication network," the "distribution and communication network" or the "network." However, the scope of the present invention is not intended to be limited by such abbreviations or any other abbreviated terms used herein to describe the present invention or components, steps or processes thereof. The global computer control system 12, the local computer control systems 16 and the distribution and communication network 22 co-act to enable the seamless integration of certain of the distribution channels 21 specifically including the flagship malls 24, peripheral malls 26 and the electronic mall 28. The network 22 may have any suitable configuration or architecture which enables consumers in the flagship malls 24, the peripheral malls 26 and the electronic mall 28 to simultaneously view content in the form of live or recorded video broadcasts, digital video, sound or audio, digital and analog content HTML text, and

other available formats. The network preferably includes a fiber optic broadband network for transmitting picture or video, sound and data to and from multiple locations.

As described in further detail below, the network 22 provides the interconnectivity, interactivity and interchannel dependence which in part makes up the seamless nature of the integration system 10. The network 22 interconnects the distribution channels such that the channels are not isolated from each other, such that the distribution channels become interactive with the consumers, and such that there is a certain level of transparency between the channels.

Global & Local Computer Control Systems

The global computer control system 12 may be physically located at or adjacent to one of the flagship malls 24. The flagship malls 24 may also include combined global and local computer control systems. The global computer control system 12 and the local computer control systems 16 may be designed in various configurations. Example configurations of these control systems are illustrated in Figs. 2 and 3, and are discussed together herein, although it should be appreciated that the global and local computer control systems may have differing or alternative configurations. In this example, the global and local computer control systems 12 and 16 include receivers 30 and 32, respectively, for receiving communications via the network 22, and transmitters 34 and 36, respectively, for transmitting communications via the network 22. The global and local computer control systems 12 and 16 include internal communication systems 38 and 40, respectively, for processing the internal communications to and from the receivers 30 and 32 and transmitters 34 and 36, respectively, and to and from central processing units (CPUs) or servers 42 and 44,

respectively. The CPUs or servers 42 and 44 process communications, direct data and content to the appropriate distribution channels, and are adapted to respond to commands from controllers 46 and 48, respectively, which oversee the integration system 10. System controllers 46 and 48 interface with the CPU/servers 42 and 44 through conventional communication interfaces 50 and 52, respectively. The interfaces include conventional computer displays, and output and input devices. The local computer control systems 16 also include suitable local routers 54 for communicating internally with the cameras 58, mall monitors 60, convergence channels 62 and digital stores 64 in the flagship malls 24 and the peripheral malls 26 as discussed below.

The Consumer Data Gathering and Distribution System

The consumer data gathering and distribution system 18 of the integration system 10 is generally illustrated in Fig. 4. The consumer data gathering and distribution system 18, referred to herein as the "consumer data system", is presented to the consumers in the form of an affinity program or system. The consumer data system 18: (i) collects data to monitor the consumer use and effectiveness of the integration system; (ii) creates interconnections between the multiple distribution channels; (iii) rewards consumers for using the integration system to obtain products, services, entertainment, programming and information; and (iv) collects data on the interests of consumers in different products, services and entertainment, which enables the consumers to subsequently purchase such products, services and entertainment using the integration system and which enables retailers to provide information to consumers regarding such products, services and entertainment. The consumer data system 18 collects such data from the flagship malls 24, the peripheral

malls 26, the electronic mall 28 and other distribution channels 29. The consumer data system 18 stores this data in: (i) a consumer profile information database 18a; (ii) a consumer points database 18b; (iii) a consumer products database 18c; and (iv) a consumer product interest database 18d. These databases can be used by the consumer or a personal agent or shopper 19 to store information about the consumer and to allow the consumer to purchase additional complementary products, services and entertainment and to purchase products, services and entertainment which the consumer has already looked at, tried on or otherwise expressed interest in.

Consumers are able to earn points through a variety of ways in the integration system 10. The consumers are referred to alternatively as consumers, users, customers, members and members/consumers. The points consumers receive are predetermined on a suitable scaled basis. The consumer data system 18 awards consumers points for active use of the integration system which includes consumer participation in events, purchasing of products or services, use of affiliated credit cards, or spending significant amounts of time at the flagship malls 24, the peripheral malls 26, the electronic mall 28 or the stores or web sites accessible at the flagship malls 24, the peripheral malls 26 or the electronic mall 28. For instance, when consumers enter a physical mall, the integration system provides them the option to use a personal identification number or a smart card to login their visit at the mall and earn award points. Each purchase they make in the physical mall will also earn the consumer award points. The consumers further earn award points by visiting the mall web sites, by purchasing products through the mall web sites, by purchasing products through the electronic mall 28 of the integration system 10. Consumers can also obtain award points by introducing other consumers to the integration system 10.

Consumers and retailers can access the consumer data system. Consumers may access the consumer data system 18 of the integration system 10 through the electronic mall 28 as described below. The consumers can also obtain their rewards through the electronic mall 28. The rewards include discounts on merchandise, bartered prizes, tickets to events, concerts and movies, opportunities to meet celebrities, guest appearances, or the right to participate in certain events.

Retailers can also access certain consumer information stored in the consumer data system 18 through the electronic mall 28. This enables retailers in physical and electronic malls to understand their customers.

The consumer data system 18 facilitates personalization of the integration system to individual consumers. For instance, with the authorization of the consumer, a personal agent 19 or personal expert may access the consumer data system 18 to learn information about an individual consumer and the tastes and interests of the consumer. The personal agent, who also understands the tastes of a given market segment, can assist the individual consumer in his or her purchasing decisions. The integration system further enables customer agents representing brands and manufacturers to assist consumers in their purchases.

Preferred Embodiment Of The Global And Local Computer Control System

Referring now to Figs. 5-11, one preferred embodiment of the present invention, generally indicated by numeral 1010, provides a global integrated multiple channel retailing/entertainment network of seamlessly integrated physical and electronic channels. The system 1010 enables retailers to provide a compelling entertainment and shopping environment to consumers. This embodiment of the

integration system integrates entertainment content production into a retail environment to create a continuously highly-exciting environment.

More specifically, the integration system 1010 includes a network operations center ("NOC") 1400 (also referred to as a master control system ("MCS")) that communicates with the network 1022. The NOC 1400 which functions as the global control system houses or controls the various aspects and distribution channels of the system 1010. The NOC 1400 primarily coordinates and controls the production, transmission, reception, re-purposing, storage and distribution of product, service, entertainment, information and programming or content (referred to herein as "content") in the integration system 1010. The integration system 1010 distributes the content on a real-time or delayed basis via the computer controlled distribution and communication network 1022, seamlessly integrating the multiple distribution channels.

In this preferred embodiment, as specifically illustrated in Figs. 9 and 10, the NOC 1400 includes equipment to support and control at least one internet web site 1159, a content control system 1402, (which includes the content storage systems 1014 and the content production/processing system 1020), a teleservices center and system 1404, a business control system 1406 and an infrastructure control system 1408, all as discussed in greater detail below. While the NOC 1400 is depicted as a single structure housing the equipment that controls the various distribution channels of the system 1010 as provided previously, it should be appreciated that such equipment may be located at separate locations or outsourced from commercial suppliers.

Fig. 5 further illustrates that at least one, but preferably two or more studios 1410 communicate with the NOC 1400 through the network 1022. As illustrated, a

first studio 1410A (also referred to as the LA studio 1410A) creates content for the system 1010 while a second studio 1410B (also referred to as the NY studio 1410B) edits the content produced in the first studio 1410A. As provided previously, this content may be produced in public studios or event areas 56 (such as in the flagship malls 24), in private studios 66 which are part of the system 10 (including sound stages in the flagship malls 24 or peripheral malls 26 or in out-sourced studios 227 (best seen in Fig. 40). The content produced in these studios is sent to at least one in-mall video network partner ("IMVN partner") 1412 for inclusion in the in-mall video network ("IMVN") 1414. The IMVN partner comprises any merchant, supplier or other individual who receives content over the IMVN 1414. The network further co-acts with a data network or internet 1416 (preferably a Wide Area Network ("WAN"), although other IP networks, ATM's, satellites or wireless networks could be employed) further enabling the seamless integration of certain of the distribution channels 21 specifically including the flagship malls 24, peripheral malls 26, the electronic mall 1028 and the digital store 1064.

The network 1022 includes WANs, in-store local Area Networks (LANs), connections to in-mall video systems, credit verification, connections to the studios 1410 (in LA and NY), connections to IMVN partner networks, and connections to the NOC 1400. The network ties together all elements of the system 1010 and provides the data necessary to implement the system.

The integrated network 1022 supports real-time content delivery, store-and-forward video content, video conferencing, store Web content, and mall/in-store operations. One of the requirements for the network 1022 is that it supports real-time content delivery to the mall/store. To ensure an adequate level of service, a transport technology using ATM and IP point to point and point to multi-point multicasting is

employed. For quality of service, it is envisioned that the core of the network 1022 is ATM based. ATM is preferably an AT&T asynchronous transfer mode backbone having a switching fabric that enables IP providers to quickly bring new service features to customers, enables existing services to interwork, such as frame relay to ATM, and provides common provisioning, maintenance and management. The AT&T IP backbone uses a two-tiered "Edge-Core" approach that focuses on reliability and scalability in the core network and leads the evolution of new services and technologies at the edge.

The NOC 1400 forms the hub of the network 1022. The NOC 1400 provides the master control, the business control, the content control, the protocol control and a test system for the system 1010 (See Fig. 6). Certain designated staff of the implementor of the system may also be located at the NOC. The connectivity between the internet and partners/suppliers networks is implemented through the NOC 1400. As such, the NOC is the gateway for any user or system implementor to connect to the other distribution channels. A security firewall is preferably implemented at the NOC 1400, protecting the NOC, the in-mall networks, and the production facility networks.

The NOC 1400 is connected to credit card processors 1418 and suppliers 1420 as specifically illustrated in Fig. 6. These interconnections enable consumers to view and purchase products not physically located in the digital store 1064 (or other stores in the mall) but otherwise available through suppliers 1420. The credit card processor 1418 interfaces with the NOC 1400 enabling consumers to purchase products, services, entertainment, programming and information using the system 1010, whether located in the store 1064 or otherwise available through the network. In this preferred embodiment, suppliers 1420 interact and communicate with the network

through the internet 1416. The credit card processor 1418, on the other hand, communicates with the network 1022 through the NOC 1400, providing a layer of security that protects the credit card processor 1418 (i.e., avoids interaction with the consumer over or through the internet 1416).

A hosting site 1417 is illustrated interacting with the ATM network 1022 and the credit card processors 1418. The hosting site 1417 provides HTTP services, a commerce system, a registration system LDAP and store backup. In addition, the hosting site 1417 enables the system 1010 to offer E-mail, chat and video conferencing.

Fig. 7 provides a high level schematic diagram of the various product, service, entertainment, programming and information distribution channels supported by the NOC 1400. The NOC 1400 supports the internet web site 1159 (and the internet web site home page 1169), at least one database 1424, and the infrastructure control system 1408. As further described below, the NOC 1400 provides coordinating capabilities 1422 for the system 1010, which includes supporting the business control system 1406 and the at least one content control system 1402 (controlling at least the content storage systems 1014 and the content production/processing system 1020). The infrastructure control 1408 monitors the communications between the various channels and the NOC 1400.

Fig. 8 provides a schematic view of the architecture illustrating the communication between various product, service, entertainment, programming and information distribution channels facilitated or supported by the NOC 1400. For example, the NOC 1400 facilitates the communications between the digital store 1064 and the teleservices center 1404. The NOC 1400 also enables the infrastructure

control 1408 to monitor the communications (i.e., the networking) between the various distribution channels and the NOC 1400.

A detailed schematic view of the logical architecture of the system 1010 is illustrated in Figs. 9A and 9B. These figures illustrate the interactions and communications between the ATM WAN 1022, the Internet 1416, and the various distributions channels and support functions (i.e., the digital stores 1064, the store mock-up 3000, the infrastructure control 1408, the business control 1406 and the contract control 1402, etc. as shown).

Fig. 9A illustrates an ATM WAN SWITCH 3006A interacting with router 3008A and the ATM WAN 1022. The router 3008A connects the system and directs traffic to the correct endpoints. The routers insure that packets of information or traffic are properly distributed so that they arrive at the proper destination. The router examines the traffic to determine the destination and insures that such traffic is transmitted thereto. A firewall core 3010, preferably comprised of at least two firewalls 3010A and 3010B, connects to the router 3008. The core firewalls provide security or act as a checkpoint for the system. The firewalls accept or block packets of information or traffic as they are transmitted along the system. Router 3008A communicates with an external network 3056 through at least one IP connection. The external network interacts with, and provides communication with, the internet 1416 via at least one pair of interconnecting routers 3058A and 3058B.

A streaming media server 3060 is shown interacting with the external network 3056 and the core firewall 3010A via an IP connection, in addition to interacting with an access network 3061. The external network 3056 also communicates with a domain name server ("DNS") 3062, shown connected to access network 3061 and management switch 3064 (through connections 1) and the terminal server 3066

(through connection 2). The DNS 3062 provides the software that translates alphabetical addresses into numerical addresses required to send messages over the internet 1416.

A service network 3070 communicates with the external network 3056 through a pair of interconnecting load balancing devices 3068A and 3068B. The load balance devices enable the system to balance the traffic load between the external network 3056 and the service network 3070. An IDS sensor 3072 is shown interconnecting with the service network 3070.

Fig. 9A also illustrates an IRC chat and instant messaging device 3074 (including ROOMs and pager capabilities), an HTTP/HTTPS servers 3076 and a Mail and MTA devices 3078 all communicating with both the service network 3070 and the access network 3061. The IRC chat and instant messaging device 3074 provide the system with messaging capabilities, the HTTP/HTTPS server 3076 enables the system to communicate with the internet 1416 using Hypertext Transfer Protocol ("HTTP") and the Mail and MTA device 3078 provide e-mail capabilities. An IDS sensor 3080 is also shown interacting with the access network 3061.

A data network 3084 is illustrated communicating with the access network 3061 through an information firewall 3082, where the firewall 3082 acts as a protection device similar to the core firewall 3010. In addition, the data network 3084 communicates with the core firewall 3010A through an IP connector. The data network 3084 communicates with a plurality of servers, including an application server 3086, an integration server 3088 and an advertising sever 3090. The application server 3086 runs application software such as the affinity software, the personalization software and the rules engine. The integration server 3088 runs

integration software (for example Mecator and MQ Manager), while the advertising runs advertising software such as AdServer4.

The data network 3084 is shown interacting with a plurality of other devices, such as an MSS Mail Box system device 3092, the backup system 3094, the Web content database 3096, the chat/messaging device 3098, the LDAP registration processing devices 3100 and an IDS sensor 3102. This interaction between the data network and the other devices enables the system to provide the various functions as described in greater detail below.

A tape juke box 3104 is shown communicating with the Web content database 3096 and the backup system 3094. The tape juke box 3104 stores information on a tape format. A redundant disk array 3106 interacts with the web content database 3096, the backup system 3094, the MSS mail box system 3092, the streaming media server 3060, the chat/messaging 3098, the LDAP system 3100, a video conferencing system 3108 and a CD publishing system 3110. The redundant disk array 3106 provides redundancy or backup for these various systems.

A video conferencing network 3112 is shown connected to the router 3008A, the video conferencing system 3108 and the CD publishing system 3100. The video conferencing system 3112 provides the video and music (i.e., CD's) capabilities to the system, in addition to enabling users to tall face-to-face (i.e., video conference) as discussed in greater detail below. An IDS sensor 3114 is shown interacting with the video conferencing system 3112.

The router 3010A is shown connected to the management switch 3064 which is connected to a management server 3116 and the terminal server 3066. The management server 3116 runs the software for managing the system including the

Director (IDS) software. The management switch 3064 and terminal server 3066 communicate with the DNS 3062 via connectors 1 and 2 as shown.

A credit authorization system 3119 is shown as part of the system. One or more bank networks 3120A and 3120B connect to a plurality of DSU's 3122A and 3122B. the DSU's 3122A and 3122B are interconnected to a second set of DSU's 3124A and 3124B, either through an IP or a dial backup (56 kbs) connection. The plurality of DSU's 3124A and 3124B communicate with a router 3126, which communicates with a switch 3128, the MSS Mail Box system 3092, the backup system 3094, the streaming media server 3060, the tape juke box 3104 and the redundant disk array 3106. The bank authorization system 3119 enables the system to communicate with the bank networks 3120A and 3120B to receive credit authorization.

ATM WAN switch and router 3006B and 3008B interact with the core firewall 3010B. It should be appreciated that ATM WAN switches 3006A and 3006B, router 3008A and 3008B, and core firewall 3010A and 3010B could be one device or two similar but separate devices. The core firewall 3010B interacts with the master control and production control generally designated 3130 and teleservices/business control/infrastructure control generally designated 3134. The master control and production control 3130 comprise at least the master control 2058 and the content production control 1020, while the teleservices/business control/Infrastructure control 3134 comprises at least the infrastructure control 1408 and the business control 1406 (best viewed in Fig. 9B)

Turning to Fig. 9B, the NOC 1400 includes a network communication closet 3002 (similar to the switched core described in Fig. 11 below) and an MIS closet 3004. The network communication closet 3002 comprises the ATM switch interacting with

the ATM WAN 1022 via a raw ATM connection. The network communication closet further includes the router 3008 connected to the ATM switch via an IP ATM connection and the core firewall 3010. The firewall core 3010 is comprised of at least two firewalls 3010A and 3010B connected to the router 3008 via fast Ethernet connections. A core switch 3012 is shown connected to the firewall core by a fast Ethernet connection. The core switch switches between the various commination paths, transmitting the traffic to the proper destination as designated by the routers.

As described previously, the NOC further includes an MIS closet 3004. The MIS closet is comprised of two distribution switches 3014A and 3014B, respectively, which communication with the core switch 3012 via a gigabit primary connection. The distribution switches 3014A and 3014B further interconnect and interact with a plurality of access switches 3016A through 3016N (where N depends on the interconnections and the functions supported by the NOC 1400). The store mock-up 3000 enables the system managers to demonstrate the system capabilities and test various configurations without otherwise affecting the systems or stores 1064. The mock-up 3000 is shown connected to the communication closet 3002 via a raw ATM connection. In particular, an ATM switch 3018 is shown interacting with ATM switch 3006. The ATM switch communicates with multi-screen video processor 3020 via a fast Ethernet connection and a router 3022 via an IP ATM connection. The router 3022 examines the traffic provided by the ATM switch 3018 to ensure its proper delivery to the proper destination. Router 3022 is shown connecting to core switches 3024A and 3024B respectively via fast Ethernet connections, where the core switches communicate and interact with each other via gigabit primary connections. The core switches 3024A and 3024B are each shown interacting and communicating with a

plurality of access switches 3026A through 3026N (where N depends on the system requirements.

The communication closet 3002 also communicates with the infrastructure control 1408, the business control 1406 and the content control 1402. The infrastructure control 1408 includes a router 3028 that communicates with core switch 3012 of communication closet 3002 via a fast Ethernet connection. Similarly, the business control 3030 includes a layer 3 switch 3030 communicating with the core switch 3012 via a fast Ethernet connection.

As provided previously, the content control 1402 is shown interacting and communicating with the network communication closet 3002. The content control 1402 comprises a master control 2058 and a test center 3032. The master control 2058 includes a layer 3 switch 3034 communicating with the core switch 3012 of the network communication closet 3002 via a fast Ethernet connection. The layer 3 switch 3034 communicates with an HDTV video (MCS) 3036 and a switch 3038 of the content production 1020. The master control further includes the HDTV video (MCS) 3036 connected and communicating with ATM switch 3036 of the network communication closet 3002 via a raw ATM connection.

The content control 1402 further includes a test center 3032 provided above. The test center 3032 includes a layer 3 switch 3040 connected to the core switch 3012 of the network communication closet 3012 via a primary connection. In turn, the layer 3 switch 3040 is connected to switches 3042A and 3042B via a fast Ethernet connection. The switches 3042A and 3042B are connected to the system test integration center 3044 (further containing 40 personal computers) via raw ATM connections. The layer 3 switch 3040 is also connected to a plurality of switches 3046A, 3046B and 3046C respectively via a fast Ethernet connection. The switches

3046A through 3046C are shown communicating with a first and second terminal servers 3048A and 3052 via fast Ethernet connections. Terminal server 3048A and terminal server 3052 are each shown connected to personal computers 3050 and 3054 respectively via a fast Ethernet connection.

Fig. 10 illustrates the logical architecture of the NOC 1400, including the interaction and communication between one preferred embodiment of the digital store 1064 and the components of the NOC. The digital store 1064 is adapted to sell and demonstrate products in a mixed physical and virtual environment, enabling a retailer to promote brands to the consumers at or close to the point-of-purchase. As described in greater detail below, the digital store 1064 provides a point of purchase and a main attraction for drawing consumers to the malls, enabling consumers to view products and services, conducting video conferencing, engaging in in-store gaming, creating communities of interest, and enabling businesses to reach these communities of interest. The store 1064 communicates with the WAN or the network 1022. The system 1010 preferably includes firewall and bastion application host servers 1438 and 1440 respectively that communicate with each other and the network 1022 and protect the network from damage or tampering. The firewall and bastion application host servers 1438 and 1440 control traffic to the NOC 1400 from the digital store 1064, the studios 1410 and IMVN partners 1412 from the internet 1416.

The control for the internet web site 1159 and certain servers is also illustrated in Fig. 10. These servers include: (i) the information web server 1443; (ii) e-mail server 1444 with storage medium; (iii) personalization and affinity server 1446 with storage medium; (iv) portal services server 1448 with storage medium; (v) commerce platform (for web sales processing, reporting, affiliate management, and interface to the order management system); (vi) e-commerce server 1450 with storage medium;

and (vii) the infrastructure control, content control and the teleservices control systems 1408, 1402 and 1404, respectively. The infrastructure control system 1408 includes: (i) the infrastructure control server 1452 with storage medium; (ii) the content control system 1402 which includes at least one content control server 1454 with storage medium; (iii) teleservices control 1404 with a teleservices center server 1456 with storage medium that includes a call routing server 1458; (iv) a customer support center 1460; and (v) a voice/data interface 1462.

One preferred embodiment of the local area network ("LAN") 1463 for each of the stores 1064 is illustrated in Fig. 11. The LAN 1463 communicates with the network 1010 and the NOC 1400, receiving system content, support for the content and other services not provided locally (i.e., in the store). It should be appreciated that, to avoid system crashes and other system malfunctions or breakdowns, the NOC 1400 preferably includes suitable redundancies, such as redundant stand-alone subsystems or an independent, redundant (i.e., backup) facilities located remotely to the NOC. NOC 1400 preferably encompasses: (i) a mockup mall/digital store (used as a demonstration site or to test new products or services; (ii) a consumer testing center; (iii) a video content production control facility; (iv) a video content master control facility; (v) a video content traffic and scheduling facility; (vi) server farms 1466; (vii) one or more functional areas 1468; (viii) a security/firewall network; (ix) an IT infrastructure network management; and (x) a customer care center. The NOC 1400 further provides system connectivity for the customer care center, the malls/stores, partners/suppliers network, and the internet.

The LAN 1464 preferably includes three layers to support the content which travel over LAN to the digital store and the operations and functions of the various new and existing product, service, entertainment, programming and information

distribution channels. The LAN 1464 is designed with an access layer 1466, a distribution layer 1468 and a core or functional area layer 1470 which are all tied together and communicate with a switched core 1472 as would be appreciated by one of ordinary skill in the art. The access layer 1466 comprises a first router 1474 communicating with the WAN or network 1022. In a preferred embodiment illustrated in Fig. 11, the access layer 1466 comprises at least two first routers 1474 communicating with the WAN or network 1022.

The switched core 1472 comprises at least two ATM switches, first and second ATM switches 1476 and 1478, respectively. As illustrated, the switched core 1472 comprises a pair of first ATM switches 1476 that communicate with each other, the first routers 1474 and the core layer or functional areas 1470. A pair of second ATM switches 1478 are shown communicating with each other, the first ATM switches 1476, the distribution layer 1468, the core or functional area layer 1470 and at least one, but preferably two, second routers 1480. It should be appreciated that instead of two pairs of switches (first switch 1474 and second switch 1478) the switched core 1472 could include only one pair of switches 1474 that communicate with each other, the first and second routers 1474 and 1478 respectively, and the core layer or functional area 1470. The distribution layer 1468 comprise at least one switch 1482 and one or more distribution servers 1484 (ranging in number from 1 through N, where N is determined by the requirements of the LAN 1464) that act as a server farm. As shown, the distribution layer 1468 comprises a plurality of servers 1484 that communicate with the two distribution switches 1484, which in turn communicate with the second routers 1480 of the switched core 1472.

The core layer or functional area 1470 comprises a first distribution router 1484 in communication with at least the first ATM switch 1476 and a switch 1486 for

distribution. A plurality of desktop systems 1488 (ranging in number from 1 through N, where N is determined in accordance with the requirements of the functional area 1470), which provide the functionality of the functional area 1470, are shown communicating with the distribution switch 1486. The functional core 2470 as illustrated in Fig. 11 includes a second distribution router 1484A in communication with at least the second ATM switch 1478 and a second switch 1486A for distribution. A second set of desktop systems 1488a are shown communicating with the second distribution switch 1486A.

The servers in the in-store LANs are connected to both distribution switches so that if a failure occurs in a network path a second path is available to reestablish the connection. The server's network cards and their drivers (or other software) monitor the LAN connections. The network cards determine if a fault has occurred and if information should be sent over the secondary connection. In addition to the devices shown in the Fig. 11 the distribution switch provides connectivity to the in-store display devices via necessary intermediate systems. It also provides connectivity to a chosen advertisement service provider for delivering live events and other system content.

The Flagship Malls

The flagship malls 24 of the integration system 10 are preferably located in cities throughout the world such as Los Angeles, New York, Miami, Las Vegas, Washington D.C., London and Tokyo. The flagship malls 24 are preferably constructed at pre-established high consumer traffic areas such as Grand Central Station in New York City or in newly constructed high consumer traffic locations. The flagship malls 24 serve as focal points for consumers and content production in the integration system 10. The flagship malls 24 may be constructed in numerous

configurations and will generally include public and private studios or production areas for creating substantial amounts of quality content. The integration system may produce continuous live content from the flagship malls.

More specifically, a potential configuration of a flagship mall 24 in the integration system 10 is generally illustrated in Fig. 12. The flagship mall 24 preferably includes a centrally located public studio or event area 56 for producing or hosting public events such as world-class entertainment and producing other content which includes consumer participation. A plurality of cameras 58 are used to monitor, record and transmit the events which occur in the event area 56. A local computer control system 16 at the flagship mall 24 may monitor and control the events in the flagship mall 24 in conjunction and coordination with the global computer control system 12 of the integration system 10. The flagship mall 24 generally includes a plurality of mall monitors 60 for broadcasting events and other content in the flagship mall 24, convergence channels 62 for providing access to the content broadcast by the mall monitors 62, one or more digital stores 64 for demonstrating and selling products in any desired environment, one or more private studios or sound stages 66 for producing content which does not include consumer participation, one or more transparent sound proof walls 68 for insulating consumers from the private sound stages 66 while allowing consumers to view the content production occurring in the sound stages 66, a plurality of Internet access terminals or groups of terminals 70, one or more e-laboratories 71 for enabling consumer product companies to display their new or prototype consumer products, one or more one-off stores 74 for providing Internet based companies with a physical location to display their products and for enabling consumers to see products available through the Internet, and could include a plurality of conventional stores 76 selling conventional products or services or

entertainment brand-themed stores. The mall monitors may include a plurality of interconnected plasma screens and video monitors.

The Event Area

The event area 56 of the flagship mall 24 is adapted to host a plurality of various types of world-class events such as celebrity appearances, activities and interviews, new product demonstrations and exhibits, and concerts. The event area 56 is readily accessible to consumers and the events occurring in the event area 56 preferably include consumer participation, as discussed below. The cameras 58 monitoring the event area 56 record the events occurring in the event area 56. The cameras 58 are connected to and transmit the recorded events to the local computer control system 16 at the flagship mall 24. The local computer control system 16 transmits the recorded events over the communication network 22, which at the direction of the global computer control system 12 transmits, on a real time or delayed basis, the recorded events to the distribution channels 21 such as the other flagship malls 24, peripheral malls 26 and electronic mall 28 to seamlessly integrate these distribution channels.

The seamless integration provided by the integration system 10 is best illustrated by describing an example event. For instance, the flagship mall 24 in Los Angeles may host a live celebrity appearance during which the celebrity, for instance, plays a video game in the event area 56. The cameras 28 record the celebrity playing the video game. This event may be transmitted and rebroadcast via the local computer control system 16, the communication network 22 and the global computer control system 12 to the other flagship malls 24, the content production/processing system 20, the peripheral malls 26 and the electronic mall 28. Moreover, the video

game data itself may also be connected to the local computer control system 16. The local computer control system 16 may transmit the video game signal via the communication network 22 to the global computer control system 12 and the content production/processing system. The content production/processing system may re-purpose the signal if necessary. After any processing, the global computer control system 12 re-transmits the video game signal to the video games at other flagship malls 24, peripheral malls 26 or the electronic mall 28. This enables consumers at the other flagship malls 24, peripheral malls 26 and the electronic mall 28 to not only see the celebrity playing the video game, but additionally to play the video game against the celebrity, on a real time or delayed basis. The local computer control system 16 at the flagship malls 24 or the peripheral malls 26, or the electronic mall 28 may transmit the video game signal of the consumer playing the video game in these malls over the communication network 22 to the global computer control system 12 and back to the video game at flagship mall 24 where the celebrity is playing the game. Thus, the celebrity could literally play the video game against a consumer in one of the other malls.

By transmitting both the recorded event and the actual game signal to the other flagship malls 24, the peripheral malls 26 and the electronic mall 28, the integration system 10 enables consumers in the other flagship malls 24, the peripheral malls 26 and the electronic mall 28 to play the video game against the celebrity and to watch the celebrity's reactions in the video game context. The integration system 10 thereby seamlessly integrates the flagship malls 24, the peripheral malls 26 and the electronic mall 28 such that a consumer in a mall (in a another state or country) feels as if he or she is in the flagship mall 24 in which the celebrity is appearing. The mall monitors 60 may broadcast the event occurring at the flagship mall 24 or may broadcast other

recorded events or content which is distributed by the global computer control system 12 over the distribution network to the flagship malls 24, the peripheral malls 26 or the electronic mall 28. The transmission of these multiple signals (i.e., audio, video and game signals) from and back to the flagship mall 24 to the global computer control system 12 and to the other flagship malls 24, the peripheral malls 26 and the electronic mall 28 is facilitated by the distribution network 22.

The integration system 10 records, indexes, re-purposes if necessary, and stores the entire event involving the celebrity and the consumers who interacted with the celebrity as content in the content storage systems 14, respectively, for the further production of content incorporating this recorded event and for subsequent distribution of the recorded event throughout the integration system 10.

The integration system 10 can also distribute the event to the other distribution channels 19 such as television or radio stations. For instance, the integration system 10 may monitor the number of consumers watching an event through the electronic mall 28. If the integration system determines that a substantial number of consumers are watching the event through the electronic mall 28, the integration system can elect to distribute the event through the integration system dedicated television station.

The integration system 10 simultaneously records, indexes, re-purposes if necessary, and broadcast on a real-time or delayed basis other events occurring at any of the other flagship malls 24, the peripheral malls 26 or the electronic mall 28 to the distribution channels. The integration system can deliver the content on a global, national or local level or geographic area. The integration system 10 of the present invention is thereby fully integrated to facilitate the distribution of content containing entertainment, product and brand messages to consumers through multiple distribution channels.

The Private Studios

The private studios or sound stages 66 at the flagship malls 24 are separated from the event area 56 by a sound proof wall 68 which is preferably made of transparent material to allow consumers to view the productions occurring or created in the sound stages 66 without interrupting the production in those sound stages 66. Additional conventional audio-video equipment (not shown) may be employed in the flagship malls 24 to broadcast the productions occurring in the sound stages 66 to the consumers viewing the productions. These private or insulated sound stages 66 enable consumers to view the actual production of programming or content at the flagship malls 24. The combination of the public events, the chance to participate in the production of programming and the opportunity to watch the production of programming in the flagship malls 24 enhance the shopping experience for consumers in the flagship malls 24 and attracts consumers to the flagship malls 24 on a continuous basis. The combination of the broadcast of the public events and the chance to participate in the production of programming in the peripheral malls 26 and the electronic mall 28 enhances the shopping experience for consumers in the peripheral malls 26 and the electronic mall 28 and attracts consumers to the peripheral malls 26 and the electronic mall 28. The programming or content produced in the sound stages 66 in the flagship malls 24 is transmitted to the local computer control system 16 and re-transmitted via the communication network 22 to the global computer control center 12. The global computer control center 12 will control the storage of this content in the content storage system 14, the re-purposing of this content by the content production/processing system 20, and the further distribution of this content over the distribution network 22.

Preferred Embodiment Of The Flagship Malls

Turning to Fig. 13, a high level overview of the architecture of the preferred embodiment of the flagship mall 24 is illustrated. Fig. 13 depicts the NOC 1440 supporting the internet web site 1159 (and the internet web site home page 1169), at least one database 1424, and the infrastructure control 1408. The NOC 1400 further provides coordinating capabilities 1422 for the system 1010 including supporting various elements of the mall 24. The infrastructure control 1408 monitors the communication between the various channels and the NOC 1400. The flagship malls and peripheral malls include a plurality of mall monitors for broadcasting events and other content in the flagship malls which in this embodiment is part of the in-mall video network 1414. The convergence channels are referred to as mall lumens 1490 in this preferred embodiment. The mall lumens 1490 communicate with a mall lumen display system 1492 which in turn communicates with at least with the NOC 1400 and provides access to the content broadcast through the network 1022.

Specifically, public areas of the mall are retrofit with a plurality of mall lumens 1490 which consumers (both network members and non-members) use to access the network 1022 to view a demonstration of products in a desired environment. It should be appreciated that consumers use the lumens 1490 for general browsing, member registration, member log-in, content delivery, intra-mall gaming, data collection, member services (i.e., account status, transaction processing, updating a personal profile or gift registry, receiving or sending messages, payment services, etc.). One objective of the mall lumens 1490 is to introduce the system 1010 to the consumers, encouraging them to enroll in the affinity program 1168 and utilize the digital stores.

The mall monitors 1060 may include a plurality of interconnected screens and video monitors. In the preferred embodiment, the mall monitors are part of, and communicate with the IMVN 1414. As shown, the IMVN 1414 is part of, and communicates with, the linear media distribution systems 1494, which communicates with the network 1022, the NOC 1400 and the ESCAN Network (not shown). It should also be appreciated that the linear media distribution system 1494 and the mall lumen display system may interact as illustrated in Fig. 13 to enable either system to display content distributed or displayed on the other system. This interaction and communication between the IMVN 1414, the linear media distribution systems 1494, the lumen display system 1492, the network 1022 and the NOC 1400, enable the consumer to access the content broadcast by the mall monitors 1062, one or more digital stores 1064, one or more private studios or sound stages 1066, etc., enhancing their shopping environment.

The Digital Store

The digital store 64 in the flagship malls 24 is adapted to sell and demonstrate products in a mixed physical and virtual environment and enables retailers to promote brands at or close to the point-of-purchase to consumers who are already in the malls and are more likely to purchase advertised products. The digital store 64 may adopt any desired temporary motif relating to a product or service. The digital store 64 is constructed in a standard mall retail space having a floor, a ceiling, two side walls, a rear wall and a storefront which includes an entrance to the store. One configuration of the digital store is generally illustrated in Fig. 14. This configuration of the digital store 64 includes plasma screens 80 mounted on the side and rear walls for displaying images in the digital store 64, product displays 82 for displaying products in

the digital store 64, three dimensional volumetric displays 84 for displaying images relating to the products in the digital store 64 and electronic mall access terminals 86 or walls for enabling consumers in the digital store 64 to access the electronic mall 28. It should be appreciated that the integration system 10 may include electronic mall access terminals 86 in the flagship malls 24 and peripheral malls 26 outside of the digital stores 64.

Depending on the product or service being displayed in the digital store 64, the global computer control system 12 will select and obtain content associated with the product or service from the content storage systems 14 and transmit that content over the distribution and communication network 22 to the local computer control system 16. The local computer control system 16 at least temporarily stores this content for a predetermined period of time and re-transmits the content to the plasma screens 80 in the digital store 64. The plasma screens 80 display this content in the digital store 64 to create a temporary enhanced environment or motif for exposing the products or services and brands associated therewith to consumers. It should be appreciated that plasma screens 80 could also be used on the floor and the ceiling of the digital store 64 to create a further enhanced environment in the digital store 64. Products may thus be sold or demonstrated in the digital store in a combined physical and virtual environment. The digital store 64 also preferably includes a suitable sound system (not shown) for audio broadcasts in the digital store which correspond with the video displays. The plasma screens 80 enable the motif of the digital store 64 to continuously change and to change in conjunction with the products or services being sold or demonstrated. The digital store 64 is not permanently dedicated to the sale of one type of product or service; but rather, any product or service may be sold or demonstrated in the digital store 64. The displays preferably only last a short period

of time such as one or two months and are updated with new displays on a regular basis. Such product display may be seasonal. The digital store 64 in combination with the electronic mall 28 provides consumers access to products and services not normally available in physical malls. Completely new products and services (i.e., such as vehicles, healthcare and investments) could therefore be sold in the physical and electronic malls.

For example, if new skiing equipment is being displayed in the digital store 64, the content displayed by the plasma screens 80 may include snow-covered mountains at a popular ski destination. The plasma screens 80 could display still pictures or videos of these mountains. Moreover, the plasma screens 80 could display a recorded or live transmission of people skiing on the mountains or of a specified ski village in the United States or elsewhere around the world.

The digital store 64 in the flagship malls 24 further enhance the shopping experience for consumers in the flagship malls 24 and attract consumers to the flagship malls 24 on a continuous basis to see the products or services displayed in the digital store 64 which are continually updated as well as the environments displayed in the digital stores 34 which are preferably cutting edge or interesting to consumers. The digital store thereby integrates the electronic mall 28 into the physical malls.

An alternative configuration or embodiment of the digital store adapted to display a single brand concept, product or service is illustrated in Fig. 15, and generally indicated by numeral 64a. Digital store 64a includes a movable plasma screen wall system 90 on opposite sidewalls, a wall to wall video backdrop 92 on the back wall, a surround-sound audio system 94, an interactive on-line sales terminals or

Internet access terminal 96, a three dimensional virtual reality projection system 98, plasma screen video signage 100, showcases 102, and a logo projection system 104.

A further alternative configuration or embodiment of the digital store is adapted to display more than one brand concept, product or service is illustrated in Fig. 16, and generally indicated by numeral 64b. Digital store 64b includes a game area 110, a featured celebrity area 112, a music area 114, a sports area 116, a movies area 118, a gear and gadgets area 120, a clothing/fashion area 122, and a core/restaurant/service area 124. The areas in this configuration of the digital store display products related to different areas of consumer interest. It should be appreciated that the areas of consumer interest could vary on a regular basis and that certain areas would be redesigned on a regular basis.

E-Laboratories

The flagship malls 24 preferably have at least one e-laboratory 71 for enabling consumer product companies to display and test new or cutting edge consumer products or services with consumers. Cameras (not shown) could be installed in such stores to: (i) create programming which includes consumers testing out the new products, and (ii) to maximize the feedback to the businesses displaying products.

One-Off Stores

The flagship malls 24 preferably have at least one one-off or Internet store 74 adapted to display products (which are only available through the electronic mall on the Internet) in a physical environment. The one-off store provides a retail area in which an electronic commerce retailer who only provides its products through the Internet can display their products in a physical environment. One or more Internet

retailers could display their products in the same one-off store 74. The one-off store 74 also provides a physical place for the consumers to return products they purchase through the electronic mall 28. This provides consumers with further confidence in the use of the electronic mall 28 on the Internet. The one-off stores thereby further seamlessly integrate the physical and electronic distribution channels.

Preferred Embodiment Of The Digital Store

As indicated above, the digital store of the present invention could be alternatively constructed or configured. The digital store preferably: (a) creates an innovative and engaging visual and shopping environment that drives transactions; (b) creates an environment that integrates the physical world and the virtual world to create an interactive retail experience; (c) creates a deeply impressive shopping environment that builds a lasting relationship between shoppers and both digital store implementers and malls; (d) creates a unified user experience that integrates a consistent look and feel across all customer-facing elements; and (e) creates a persistent navigational scheme that serves as the consistent framework for each application and allows for changing content and promotions. The digital store also transforms the solitary use of the internet (i.e., a person sitting alone accessing or using the internet, and waiting for results) into a community use of the internet wherein a plurality of people simultaneously access or use the internet.

The digital store thus provides a club, a community and a physical portal to the electronic mall.

One embodiment of the digital store of the present invention includes a video wall storefront as described below, a plurality of areas (including lounge areas and product areas), a plurality of plasma screen displays including at least one in each

lounge area, other displays in each lounge area, a video teleconferencing terminal in each product area, video chat lounge areas, a plurality of lumen devices which enable users to access the electronic malls, a music download device, at least one and preferably a plurality of point-of-sale or POS systems and a plurality of user registration devices. The product areas are preferably wrapped around the lounge areas.

Turning now to Figs. 17 through 25, a preferred embodiment of the digital store 1064 is illustrated. One preferred embodiment of the storefront 1493 of the digital store 1064 is shown in Figs. 17A, 17B and 17C. The digital store 1064 enables retailers (including both store merchants and e-commerce retailers) to promote brands to consumers at or close to the point-of-purchase somewhat controlled in a mixed physical and virtual environment. The preferred embodiment of the digital store 1064 comprises a store front video wall 1494 that provides a video pictorial of the products or services displayed inside the digital store 1064 to entice consumers into the malls including the stores or at least onto the network 1022. The video storefront 1493 continuously displays content. The video storefront 1493 preferably displays the look and feel of the products and services via the digital store 1064, projecting the advertising, theming, architectural views, events, the changing architecture of the stores 1064 and the image building of the digital store 1064 itself.

The store front video wall 1494 comprises one or more content display devices that preferably are in communication with the IMVN 1414. While one embodiment of the store 1064 uses video projector screens 1080 to form the storefront video wall, 1494, any type of suitable display device is contemplated. A projector interfacing with a transparent or opaque display or screen providing a constantly refreshed transparent image representative of the system content is preferred. The store front

1093 further includes a substantially cylindrical portal 1496 in the store front video wall which provides consumer access to the store 1064.

The system content is preferably transmitted over the broadband network to the LAN and store servers and then to the projectors as discussed below. This arrangement enables the system 1010 to change or constantly refresh the images representative of the system content. The system preferably provides a plurality of projectors which transmit a signal that form images on the display devices representative of the system content.

In one contemplated embodiment, an LCD projector interacts with the broadband network and transmits a light signal that forms an image on the display. While an LCD projector is discussed, any type of projector including a CRT, LCD, DLP, graphic projector, laser or other micro-mirrored devices are contemplated. Furthermore, while only one projector is discussed, a plurality of integrated projectors forming multiple images are contemplated as illustrated in Figs. 18B, and 20B through 20K.

In one embodiment, a glass layer and laminate film are used to form the video wall. The laminate film diffuses the light signal forming the image. These layers create a transparent or opaque display or video wall.

In one preferred embodiment, two pieces of glass (preferably reverse dot quarter inch laminated standard seamed edge glass) with a laminated film disposed between and in contact with the two pieces of glass is used. The two pieces of glass enable the light signal to pass through to the laminate film where it is diffused, forming the image. While this arrangement is preferred, any glass, film, material or canvas that is transparent, or at least opaque, and diffuses light is contemplated.

Figs. 17B and 17C provide a better view of the portal 1496 or portal entry which includes rounded walls 1496A and inclined flooring 1496B. The walls and flooring are both preferably made of a sound deadening material which act as a light and sound barrier or curtain, limiting the consumers' view of the interior prior to their passage through the portal 1496. This focuses the consumers' attention on the front video wall 1494 prior to entering the store 1064 and heightens their appreciation of the store interior once they enter. The combination of the video wall 1494 and portal 1496 enhances the consumer's environment as they enter the store 1064, with the result that more consumers are drawn into the store 1064 and thus the malls.

It is contemplated that the portal 1496 includes one or more scanners attached to or embedded in walls or floors 1496A and 1496B, respectively. In one preferred embodiment, the scanners scan or read the consumers' digital store identity card (also referred to as an affinity card provided to the consumers upon registration) as the consumers pass through the portal. This enables the system 1010 to recognize consumers as they enter the store 1064, and greet them by name. This information is also sent to the global control device or NOC for tracking purposes. It should also be appreciated that the portal 1496 could incorporate other identifying devices (i.e., input devices, voice recognition devices, fingerprint or handprint scanners, retina scanners, RF devices etc.) to identify consumers should they not be carrying their affinity card.

Fig. 18A further illustrates one preferred embodiment of the storefront video wall 1494 displaying one or more video images, where the wall is used to provide a video pictorial of the products, services and/or content and draw consumers into the digital store. Fig. 18B illustrates that the storefront video wall 1494 is preferably transparent, enabling people to see the interior of the digital store 1064 through the

image. A plurality of video projectors or display devices 1506 are shown suspended from the ceiling, generating the multiple images displayed on the video wall 1494.

The architecture of the storefront video wall 1494 is generally illustrated in Fig. 19. An ESCAN network 1500 (preferably a broadband network) interfaces with the linear media distribution system 1494 to direct content to the media devices located throughout the digital store 1064 through a video distribution network. In one embodiment, the system is an analog network although it could be a digital network or LAN. In one preferred embodiment, the linear media distribution system includes a multiscreen video processor (not shown in Fig. 19) that processes video signals. Such processor resizes and manipulates multiple video signals and displays multiple images on the storefront video wall 1494. The system further includes a corresponding audio processor which runs in parallel to the video processor and which selects, combines and processes audio signals. The ESCAN network 1500 further controls the storefront video wall 1494 using a port server 1498. The ESCAN network 1500 also interfaces with the audio and lighting control systems to control audio and lighting effects in the store 1064 and enables synchronized scheduling of events or shows in the digital store 1064.

The ESCAN network 1500 in turn communicates with a control server 1502 that controls one or more HD servers 1504 (ranging in number from 1 through N, where N is determined by the requirements of the store front video wall 1494, the LAN 1464 and the digital store 1064). The plurality of HD servers 1504 generate video and audio signals to both the multi-screen video processor and the audio processor which generate the video/audio content displayed on the screens 1080 and audio playback system. A live video feed port 1508 and additional video inputs 1510 are shown connected to the multi-screen video processor 1506. It should be appreciated that

each store includes at least one multi-screen video processor (referred to herein as a "video generator") 1506 for displaying video/audio on the storefront video wall 1494 or screens. It is anticipated that a plurality of video generators 1056 can be integrated, creating multiple images on the storefront videowall 1494 or screens 1080. The live video feed port 1508 and additional video inputs 1510 provide the live or recorded video broadcasts, digital video, sound or audio, digital and analog content HTML text (including other available formats), and graphic files in any format that is incorporated into the system content.

The system content (i.e., video/audio) is transmitted to the servers 1504 via the broadband network 1504 of the system 1010 and then from the servers to the store's multi-screen video processor 1506. The system 1010 can change or refresh the content as desired by the system managers. Any suitable device (i.e., computer, DVD, video tapes, video servers, laser disk players, graphics, or other suitable computer or image source device) can be used to input content into the system 1010. While a broadband network is discussed, any suitable network (i.e., non-broadband) is contemplated.

One preferred configuration of the digital store is illustrated in Figs 20A through 20K. The digital store 1064 is constructed as a standard mall retail space having a floor, a ceiling, two side walls, a rear wall and a storefront 1493 which includes an entrance (or portal 1496) to the store 1064. The preferred configuration of the digital store 1064 also includes screens 1080 mounted on the side and rear walls for displaying images, product displays 1082 for displaying products, and electronic mall access terminals enabling consumers to access the electronic mall 1028.

Depending on the product or service being displayed in the digital store 1064, the content control server 1402 and the NOC 1400 selects and obtains content

associated with the product or service from the content storage systems 1014 and transmits that content over the distribution and communication network 1022 to the digital store 1064. The screens 1080 displays this content to create a temporary enhanced environment or motif for exposing the products or services and brands associated therewith to consumers as described above. The digital store 1064 also preferably includes a suitable sound system (not shown) for audio broadcasts in the digital store 1064 which correspond with the video displays. The screens 1080 enable the motif of the digital store 1064 to continuously change in conjunction with the products or services being sold or demonstrated.

The digital store 1064 is adapted to display more than one brand concept, product or service as illustrated in Figs. 20A through 20K. It should be appreciated that the digital store 1064 could encompass one or more sub-stores. In one contemplated version, the digital store 1064 could target women, wherein each sub-store would target a specific age group or demographic. Yet in another contemplated version, the digital store 1064 targets women of a specific age or demographic, wherein each sub-store targets specific areas of interest (i.e., entertainment, makeup, etc.) It is further contemplated that the store could include one or more sub-stores targeting the same areas of interest for the same demographics.

One preferred embodiment illustrated in Fig. 20A depicts the digital store 1064 including a music area 1114, a sports and fitness area 1116, a movies or film area 1118, a clothing/fashion area 1122, a lounge area 1512, a health and beauty area 1514, and a core/restaurant/service area 1124, although other areas are contemplated. The areas in this configuration of the digital store 1064 display products related to different areas of consumer interest. It should be appreciated that the areas of consumer interest could vary on a regular basis and that certain areas

would be redesigned or reconfigured on a regular basis. The digital store also includes at least one lumen 1062, a mood booth 1516, a dressing or changing room 1517, an editorial system 1519 and an aggregator 1518.

The digital store 1064 is adapted to display more than one brand concept, product or service as discussed previously. The aggregator is a long term retail provider who provides the brand, concepts, content, products, services, etc. and that anchors a particular store, sub-store or area of consumer interest depending on the store setup. The aggregator acts as a retail anchor for each store, sub-store or area of consumer interest providing at least one aggregator point of presence ("pop") unit 1518 to display the products, services, etc.

For example, it is contemplated that a film and video aggregator could act as the retail anchor for a store 1064 or, more specifically, the anchor for the movies or film area 1514 of a store 1064. It should be appreciated that other aggregators would anchor other areas of the store. In this example, the aggregator would use the aggregator pop unit 1518 to display packaged film and video products. The film and video products would vary on a regular basis dependant on the content change.

It should be appreciated that the aggregator will process the purchase upon receipt of the transaction order from the digital store transmitted over the network.

The mood or situation booth 1516 is preferably a tubular device which the consumers use to create a mood, particularly used in the health and beauty area 1514. The consumers use the mood both 1516 to approximate a particular setting or situation, for example, a candlelight event or a bright sunlight (i.e., on a beach). It is contemplated that the mood booth 1516 includes one or more screens and a light setting interacting with the LAN 1464 to approximate the lighting and setting for particular events. The consumer samples the health and beauty products, selects a

particular setting (i.e., sets the mood) in the mood booth 1516 and tests the products in the selected setting to determine their suitability for that situation.

The fashion area 1122 includes one or more dressing or changing rooms 1517. In one embodiment, the changing room 1519 includes at least one input device (i.e., a video camera, a scanner or other device) and at least one display device, both of which interact with the LAN 1464. The input device scans the consumers after they enter the room 1517 and displays a virtual model that approximates the consumers size and shape.

The consumer selects an item to "try on", using either any terminal prior to entering the changing room 1517 or an access device possibly located in the room 1517. It should be appreciated that both the editorial system 1519 and access device interact with the LAN 1464. The input device conducts a body scan and displays the virtual model modeling the item on the display device. The system 1010 enables the consumer to move the virtual model, change the item color or style, add accessories (shoes or a jacket for example), etc. as is well understood. It should be appreciated that the virtual modeling could be performed in any other suitable area or store location or through any other suitable access or distribution channel.

Figs. 20B through 20K provide a plurality of perspective views of the digital store 1064 moving around the store 1064 in a counterclockwise direction, providing a perspective view of the music area 1114, sports fitness area 1116, movies or film area 1118, clothing/fashion area 1122, lounge 1512, health and beauty area 1514, and core/restaurant/service area 1124. It should be appreciated that these areas could change as desired by the implementor of the digital store. In addition, the perspective views of Figs. 20B through 20K provide additional views of the mood both 1516, the aggregator pop 1518 and the changing room (best seen in Figs. 20D through 20G).

Turning to Figs. 20B, 20F, 20G and 20I, the lounge area 1512 includes one or more couches 1511, chairs 1513, tables 1515 or other suitable furniture to create a community environment in the digital store. Figs. 20B, 20E and 20F illustrate the video generators 1506 and the interaction with the screens 1080 adjacent to or on at least one side wall of the store. Furthermore, Figs. 20B, 20D, 20E, 20F, 20G and 20I provide a perspective view of both the portal 1496 and the video generators 1506 interacting with the storefront video wall 1494, displaying the one or more images on the storefront 1493.

It should be appreciated that the digital store 1064 functions as a "community portal." That is, the digital store acts as a physical embodiment of a website including an internet portal. The store 1064 provides both a physical and virtual gathering place for the targeted demographics, so that upon entering a store, a consumer is entering a physical embodiment of a portal (i.e., a "land portal"). When a consumer enters a store 1064, the land portal enables the consumers to physically view products displayed in the store 1064 in addition to viewing content on the various display devices. In addition, the LAN 1464 enables the consumers to access the products, services, entertainment and other content offered by the retailers through the system 1010.

A content process is used to determine the content of the system 1010 and at a particular digital store 1064. The system 1010 uses a multi-layered approach to determine the system content which reinforces a predetermined marketing message, wherein the multi-layered approach describes and distributes content about the products and services through the system. The multi-layered approach for selecting system content includes: (i) base product content; (ii) credible expert presentation; (iii) ratings; (iv) contextual marketing; (v) contextual storytelling; (vi) complementary

resource features; and (vii) merchandise driver webcast. Base product content includes providing consumers with a living catalog of product video, stills and interactive links to product/service descriptions and transactions. For example, the system 1010 enables static catalog pages to come alive, wherein a model steps out of the page and displays an item (such as a dress) from all angles, including close up, bending down etc. The system 1010 enables the consumer to change an item, the color of the item, the size of the item and accessorize the item and purchase it through the system.

Credible expert presentation includes an expert (i.e., a celebrity editor, etc.) providing video containing direct editorial insight, reviewing and embracing a product. For example, the system 1010 enables a system editor to do a write-up or piece on what to take to New York City for a weekend displaying the dress. The editor comments on the fabric, versatility of the dress, etc. Ratings include providing editor and consumer ratings and a summary of leading experts. For example, consumers may rate the dress on quality and describe how easy it is to accessorize, its versatility, how flattering it is to the figure, etc.

The contextual marketing of the present invention includes providing an interactive video showing the product being used by an expert or celebrity in a relevant situation or context with a click through to the description of the item in order to purchase it. For example, the system content depicts a celebrity choosing a particular dress for a cocktail party. The system provides a hyperlink to a page which includes a description of the dress and enables the consumer to purchase it. Contextual storytelling includes a short film/video with product placement but excludes explicit celebrity endorsement. For example, the system content may include a short film on a New Year's Eve showing a celebrity wearing the particular dress. Again, the

consumer is enabled to click through to a page using a hyperlink for a description of the dress and to purchase it.

Complementary resource features of the system content are technological tools that facilitate product demonstrations or purchases in a store. These could include using the changing room 1517 to conduct consumer body scan and prepare the consumer for fittings. The system 1010 also provides a wish list and postcards, enabling consumers to chat and conduct instant messaging. The consumer may try a dress on a virtual model, change the color to red or try the dress with shoes and a jacket. The consumer may also add the dress to a wish list and send a postcard to a friend including a pictorial of the virtual dress. Content type also includes a merchandise driver webcast which includes interviews with celebrities live from New York, LA or a network mall. For example, a webcast may be conducted from the designer's store with the designer and may include an interview, discussion of a new line, fabrics and season styles.

The LAN 1464 utilized in the preferred embodiment of the digital store 1064 is illustrated in Fig. 21. LAN 1464 as depicted includes a router 1520A in communication with a distribution switch 1522A and a switch 1486 which enables the network 1022 to distribute content throughout the digital store 1064. A plurality of servers 1524 (ranging in number from 1 through N, where N is determined in accordance with the requirements of the digital store 1064) interface with the distribution switch 1522, providing the system content which is distributed through the network 1022.

The LAN 1464 as illustrated in Fig. 21 includes a second router 1520B in communication with the network 1022 and second distribution switch 1522B. The second distribution switch 1522B, like the first distribution switch 1522A, interfaces

with each of the plurality of servers 1524. The second distribution switch 1522B also interfaces with the each of the IMVN partners 1412 and an access switch 1524. The second distribution switch 1522B enables system content to be distributed to the IMVN partners 1412 and consumers (through the access switch 1524).

As shown, the consumers receive system content through the access switch 1524. The access switch 1524 is shown interfacing with the plurality of lumens 1062 and one or more desktop systems 1526. The consumers access the network 1022 and views system content through the access switch 1524 using the lumens 1062 or a desktop systems.

Fig. 23 illustrates a detailed schematic of the architecture of the digital store 1064 of Fig. 22. The NOC 1400 is shown interfacing with the digital store 1064 through the network 1022, where the NOC 1400 controls the network 1022. The network 1022 interfaces with a digital store network, preferably a LAN 1464. The store LAN 1464 interfaces with the one or more store servers 1432, the video/audio servers 1502 and the ESCAN network 1500. The store servers 1432, which includes at least one storage medium, in turn interface with a switching hub 1550 which interfaces with the point-of-sale system (POS) 1434, the lumens 1062, the registration terminals 1536 and the video conference devices 1546.

The ESCAN network 1500 also preferably interfaces with a lighting control device 1550 and the video/audio servers 1502. The lighting control device 1550 interfaces with a lighting control unit 1552 which together control the lighting in the digital store 1064. The video/audio server 1502 interfaces with a video distribution device 1554 which controls the screens 1080 and the multi-screen video processor 1506. Further, the video/audio service 1502 interfaces with the media router 1551 (also referred to as the audio processing devices 1558 in Fig. 24) and speakers 1428.

The ESCAN network 1400 directly or indirectly controls the video, audio and lighting in the digital store 1064 as illustrated in Fig. 4. It should be appreciated that the ESCAN network 1500, acting through the video/audio servers 1502 and the lighting control server 1550, controls the video and audio in the digital store 1064 and enables scheduling of events or shows. A playlist 1568 interfaces with the ESCAN network 1500 and includes those songs that may be accessed by the ESCAN network 1500 and played over the store audio system.

The digital store also includes a wireless wan 1547 interacting with the store servers 1547, enabling consumers to purchase products or services in a "wireless mode." In one preferred embodiment, the wireless WAN 1547 (including a receiving device or antennae) enables consumers to use wearable computers 1549 to walk around the digital store 1064, enter inquires, receive answers, view content, and purchase products or services without using an interconnect system input device. The wearable computers 1549 transmits the consumers inquires, purchases, etc., to the LAN 1564 through the wireless WAN. In one contemplated embodiment, the wearable computers 1549 are provided to consumers as they enter the store and retrieved upon their exit. However, it should be appreciated that consumers personal data aids or assistants ("PDA's"), wireless phones, laptops, and other wireless devices can be used to access the wireless WAN 1547.

Fig. 24 also illustrates the architecture of the digital store 1064. Fig. 24 again depicts the ESCAN network 1500 interfacing with the lighting control 1550, the video/audio server 1502, and the HD video server 1594, among other systems. The multiscreen processing and audio processing devices 1556 and 1558 interface with the ESCAN network 1400 directly or indirectly to control the video, audio and lighting in the digital store 1064 as illustrated in Fig. 4. It should be appreciated that the

ESCAN network 1500 interfaces with both SDTV and HDTV media distribution devices 1560 and 1562 respectively. The SDTV devices 1560 are media distribution devices similar to those used in most households that receive standard definition (i.e., analog) transmissions, while the HDTV devices 1562 are high media distribution that receive high definition (i.e., digital) transmissions. The ESCAN Network 1500 interfaces with both devices.

In one preferred embodiment of the present invention, the digital store includes a CD publishing system 1564 that interfaces with a music CD control 1566 illustrated in Fig. 24. The CD publishing system 1564 enables consumers to select music titles and create their own CD and jewel case. The music control 1566 interfaces with a music CD content 1570 that contains the list of songs available for selection and downloading through the CD publishing system.

A local order management component 1572 interfaces with the music CD control 1566, among other components. The local order management device 1572 communicates with a central order management component 1574 over the network 1022. The local order management device 1572 enables a consumer to track a shipment, query an order, place lay-aways, place back orders, return products, receive credit or enter a gift registry, among other features. The local order management component 1572 interfaces with the store management systems 1540, the POS systems 1532, a shopping cart 1576 and a credit authentication component 1578. The shopping cart 1576 is a virtual device or component that marks or otherwise indicates products or services selected by the consumer prior to completing a transaction (i.e., sale). The credit authentication component 1578 authenticates the consumer and authorizes the purchase of products and services (those products or services in the shopping cart 1576 for example).

The digital store architecture includes a local web system Internet 1580 that enables store employees to access the World Wide Web or Internet. It is contemplated that the local web system 1580 interfaces with the LAN 1464 (not shown) and accesses the Internet through the LAN 1464. However, it should be appreciated that the local web system 1580 and LAN 1464 are one network. Fig. 24 illustrates that the local web system 1580 interfaces with the video conferencing system 1544, the lumen control 1538, the registration system 1534, the shopping cart 1576 and the local order management 1572. The local web system 1580 access a store content and catalogue 1582, a personalization system 1584, and one or more high quality printers 1588.

The store content and catalogue 1582 includes a content database 1014 that together provide a virtual catalogue for consumers. The store content and catalogue 1582 is part of and interfaces with the store content distribution system 1020. The store content distribution system 1020 provides the current product and service content of the digital store 1064 for the consumer's review and purchase.

As discussed above, the personalization system 1584 includes a personalization database 1586 where the system 1584 interfaces to the registration system 1534. The personalization system 1584 stores the consumers' implicit behavior (such as the consumers' purchase history, interested items from shop-lists, page views, etc.) and explicit data (such as the consumers' favorite brands/retailers) on the database 1589. Using the information stored on the personalization system 1584, this system 1010 provides an internet web site personalized to the consumer (referred to by the consumers as "My Store").

Fig. 24 also illustrates that the internet web site 1159 interfaces with the local web system 1580, the store content and catalogue 1582, the order management 1574

and credit authentication 1578. This interaction of the internet web sites 1159 with the various components enables a consumer to access the registration system 1534 and review the store content. Thus, the consumers can purchase products and services over the internet 1416 from their office, home or other remote site in a manner similar to the lumen 1062 located in the store 1064. At least one high quality printer 1588 is shown interfacing with the local web system 1580 to provide hardcopy confirmation of at least purchases of products and services, registration, etc.

The architecture of a preferred embodiment of the POS system 1532 is illustrated in Fig. 25. The POS system 1532 is available for store employee use in the digital store 1064. The POS system 1532 interfaces and interacts with the store LAN 1464 and the network 1022, completing the products or services sale transactions. The POS system 1532 is capable of handling cash, check, credit cards and affinity point transactions as discussed in detail below.

The front-end of the POS system 1532 consists of the POS terminals 1434 located at the checkout stations in the store 1064, while the bulk of the processing occurs in the store server 1432 (see Fig. 23). Each of the POS terminals 1434 include a bar code reader 1592 and a card swiper 1594. The store employee logs into the POS terminal 1434 using a password and an id card passed through the card swiper 1594. The employee enters the selected products and services into the POS terminal 1434 using the bar code reader 1592 (or keyboard) and completes the transaction.

The POS system 1532 interacts with the credit authentication 1578 through network 1022 to authorize credit, and possibly check, purchases. Cash transactions are handled locally by the terminal 1434. It should be appreciated that a backup connection directly between the POS system 1532 and credit authentication 1578 is contemplated. The POS system 1532 interacts with the order management and

personalization systems 1574 and 1548 respectively. The order management system 1574 provides for product shipment and transaction record keeping. The personalization and affinity system 1548 updates the consumers' affinity points. The POS system 1532 also accepts payments for the products and services, generates a receipt, updates the consumers' affinity points, updates record keeping and generates a stock or shipping request.

The Convergence Channel

The convergence channel 62 enables consumers to determine more information about and to purchase products which are shown in the programming displayed by the mall monitors 60. The convergence channel 66, as illustrated in Fig. 26, includes a computer terminal 130 connected to display or a monitor 132 in proximity to one or more mall monitors 60. The display simultaneously displays the same programming as the mall monitors 60. When a consumer desires to find out more information about the products displayed in the programming, the consumer uses the terminal 130 to stop the program on the display 132. Using a conventional input device such as a keyboard or mouse, the user can select certain products in the programming. The consumer can view previous screens in the program to access other products. While the consumer accesses these items, the mall monitors 60 continue to display the programming. After selecting an item, the user can determine more information about the item or purchase the item through the electronic mall 28. After the consumer uses the convergence channel, the computer terminal returns to simultaneously broadcasting the programming on the mall monitor 62. The convergence channel 62 thereby further integrates the multiple distribution channels in part by bringing more products into the physical malls.

Preferred Embodiment of the Convergence Channel

One preferred embodiment of the convergence channel or lumen 1062 enables consumers to access information about and purchase products and services offered through the network 1022. The lumen 1062 provides consumers with better and faster multimedia applications then they can achieve using a home internet browser. The lumens 1062 enable consumers to access the network 1022 to visit corresponding digital stores 1064, the registration system 1534 to update their registration information, the store content and catalogue component 1582 to study offered products or services, the personalization system 1584 to review their account, etc. The lumen 1062 includes settings for novices and experts and supports web browsing, video conferencing, in-store gaming, etc.

Fig. 27 illustrates a front and side elevational view of the preferred embodiment of the convergence channel or lumen 1062 of the integration system 1010. The lumen 1062 includes a computer terminal 1130 and numeric key pad 1602 connected to a display or a monitor 1132 held in a housing 1604 and support 1606. The housing 1604 houses a speaker cone 1596 providing high quality surround sound while the lumen 1062 includes audio/visual controls 1598 to adjust the sound and display.

The lumen 1062 also includes a dip card reader 1600 enabling a consumer to utilize a card with a magnetic strip (i.e., credit card) for identification or purchase. The consumer accesses the network 1022 using the computer terminal 1130 and numeric key pad 1602 and/or dip card reader 1600 to identify themselves and access the various functions offered by the network 1022. When a consumer desires to find out more information about displayed products or services, respond to system inquires, etc., the consumer uses the computer terminal 1130 and numeric key pad 1602. The

lumen 1062 integrates the multiple distribution channels in part by making more products and services available to consumers in the physical malls.

The Peripheral Malls

A configuration of a peripheral mall 26 of the integration system 10 is generally illustrated in Fig. 28. The peripheral malls 26 preferably include a centrally located promotional space or event area 150 for hosting public events, mobile cameras 152 for monitoring and recording events which occur in the event area 150, a local computer control system 16 for communicating with the global computer control system 12, a plurality of mall monitors 60 for broadcasting events and other content in the peripheral malls 26, convergence channels 62 connected to the mall monitors, a digital store 64 for demonstrating and selling products (or services) in a desired environment, one-off stores 74 for displaying products available through the electronic mall 28 and a plurality of conventional stores 76 for selling conventional consumer products and services. The digital store 64 and the one-off store 74 in the peripheral mall are preferably identical or substantially identical to the digital store 64 and the one-off store 74 in the flagship malls 24, although the digital store and the one-off store in the peripheral malls may be smaller. The digital store 64 and the one-off store 74 in the peripheral malls 26 enhance the shopping experience for consumers in the peripheral malls 26 and attract consumers to the peripheral malls 26 on a continuous basis especially when the products (or services) displayed in the digital store 64 and the one-off store 74 are changed on a regular basis. The same or different products (or services) may be simultaneously displayed in the digital stores 64 and the one-off store 74 in the flagship malls 24 and peripheral malls 26.

The mall monitors 60 in the peripheral malls 26 (and the mall monitors 60 in the flagship malls 24) are preferably positioned at strategic locations throughout the malls including monitors near or in the event areas. The mall monitors 60 may be of various sizes and may include commercially available standard-definition television equipment, high-definition television equipment, plasma screens, video-walls or rear projection cubes, or single panel displays. The content broadcast from the mall monitors 60 may be the same or different at the flagship malls 24 and the peripheral malls 26. Events occurring at a mall may be broadcast at that mall or at other malls. In addition to broadcasting events, the mall monitors 60 enable retailers to promote brands at or close to the point-of-purchase to consumers who are more likely to buy products because they are already in the malls. The global computer control system 12 determines the content to be displayed on the mall monitors 60, accesses the content from the content storage system 14, and transmits the content via the distribution and communication network 22 to the local computer control systems 16 at the flagship malls 24 and the peripheral malls 26. The local computer control systems 16 transmit the content to the mall monitors 60.

The peripheral malls 26 may host events in the event areas 150 and could include a three dimensional volumetric display 156 for displaying images relating to products or events in or near the event area 150. The event areas 150 in the peripheral malls 26 may include a mobile stage 158 or other facilities for enabling certain types of events. Mobile cameras 152 in or near the event area 150 record the events occurring in the event area 150. The recorded events may be transmitted and rebroadcast via the local computer control system 16, the communication network 22 and the global computer control system 12 to the flagship malls 24, the content production/processing system 20, the other peripheral malls 26 and the electronic mall

28 in a similar manner as the events in a flagship mall 24 are transmitted to the other flagship malls 24, the content production/ processing system 20, the peripheral malls 26 and the electronic mall 28. The peripheral malls 26 are thereby seamlessly integrated with the flagship malls 24, the other peripheral malls 26 and the electronic mall 28.

The Electronic Mall

The electronic mall 28 includes at least a portion of the international network of computers collectively referred to as the Internet. The Internet is a cooperatively run, globally distributed collection of computer networks that exchange information via the Transmission Control Protocol/Internet Protocol (TCP/IP). The TCP/IP is the basic communication protocol that is the foundation of the Internet and all other protocols are built on top of the TCP/IP. The World Wide Web (WWW) is a hypertext information and communication system widely used on the Internet and built on top of the TCP/IP. Uniform Resource Locators (URLs) are the scheme by which Internet resources are addressed on the WWW. URLs can point to numerous resources on the Internet, including HTML documents, pictures, sound files, movie files and database search engines. This system enables a consumer on a personal computer, a networked computer, an Internet access terminal or other suitable Internet access vehicle to enter a URL or click on a string of highlighted text and access a new document, an image or a sound file from a computer in another location around the world. A more detailed description of the Internet and the World Wide Web is set forth in U.S. Patent No. 5,826,267, which is incorporated herein by reference. The Internet currently works on a narrow band width. The integration system converts, as necessary, the broadband communications to narrower bandwidth communications for

the Internet or electronic mall. The need to perform this conversion will decrease as broadband or other suitable Internet technology is implemented on the Internet and consumer access systems to the Internet.

The integration system 10 of the present invention seamlessly integrates the electronic mall 28 on the Internet with the flagship malls 24 and the peripheral malls 26 to augment consumer product and service sales and marketing on the Internet, to enhance the independent nature of the Internet, and to add tangibility to the single channel two-dimensional nature of the Internet (i.e., flat computer screens or television monitors used to access the Internet). The integration system 10 bridges the gap between Internet-based businesses and the current physical mall infrastructure by seamlessly integrating the Internet with this physical infrastructure at a plurality of communication, entertainment and commerce points lending tangibility or an extra dimension to the Internet, and lending physical shopping to the ubiquitous nature of the Internet. The integration system satisfies the needs of consumers and retailers by providing a full range integrated electronic and in-store commerce. The integration system provides the electronic infrastructure to enable a full range of commercial transactions working in concordance with those occurring in physical commerce in addition to existing computer architectures for on-line commerce which provide an electronic infrastructure to enable commercial transactions analogous to those occurring in physical commerce.

More specifically, the integration system 10 seamlessly integrates the electronic mall 28 with the flagship malls 24 and the peripheral malls 26 by providing a plurality of interconnections or communication points between the electronic mall 28 and the flagship malls 24 and the peripheral malls 26. Consumers at the electronic mall 28 can (i) participate in events and activities occurring in the flagship malls 24,

the peripheral malls 26 or at other locations in the electronic mall 28, (ii) access proprietary or specialized content, (iii) obtain more information regarding products and services available at the flagship malls 24, the peripheral malls 26 or the electronic mall 28, and (iv) purchase products and services which they have seen at or are available at the flagship malls 24, the peripheral malls 26 or the electronic mall 28. Consumers in the flagship malls 24 or the peripheral malls 26 can (a) access the electronic mall 28 to participate in events and activities occurring in the electronic mall 28, (b) access proprietary or specialized content, (c) obtain more information regarding products and services available in the electronic mall 28, (d) store information on products the consumers are interested in purchasing at a later time and (e) purchase products and services at the flagship malls 24 and the peripheral malls 26 which are available at the electronic mall 28.

Referring now to Fig. 29, the electronic mall 28 includes all other Internet web sites 159 and an integration system web site 160 having a URL on the WWW which is accessible to consumers via the Internet. Consumers may access the integration system web site 160 through one of the many commercially available Internet access services. The integration system web site 160 includes an Internet web site home page 162 and a plurality of other pages linked to the flagship malls 24 and peripheral malls 26. The home page 162 includes a content link 164 to content pages 166, an affinity program or system link 168 to affinity system pages 170, a flagship link 172 to flagship pages 174, a mall link 176 to mall pages 178, an event link 180 to event pages 181, a referral link 182 to referral pages 185, an e-mail link 185 to e-mail pages 186, a product, service and information searching link 188 to searching pages 190, a celebrities link 192 to celebrities pages 194, a shopping link 196 to shopping pages 198, a chat room link 200 to chat room pages 202, a brands link 204 to brand pages

206 and a plurality of specified brand links 208a, 208b through 208z to the web sites of entertainment and product brands companies 210a, 210b through 210z marketed by the integration system 10. Consumers may also access other portions of the Internet through an Internet access link 212 on the home page 162.

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Event & Content Pages

More specifically, consumers may determine the events occurring at the flagship malls 24, the peripheral malls 26 and the electronic mall 28 through an events link 180 on the home page 162 which connects the consumers to the event pages 180. The event pages 180 include information regarding and schedules for upcoming events at the flagship malls 24, the peripheral malls 26 and the electronic mall 28. The consumers may access live events on the electronic mall 28 through the event pages 180. After an event has occurred, been recorded and stored by the integration system 10, the event becomes content for future distribution by the integration system 10. Consumers may access this event or content and other content in the integration system 10 through the content link 164 on the home page 162. The content pages 166 include selected content which the consumers may access. The content pages 166 may be updated continuously as events occur and are preferably updated at least on a daily basis with new content, and especially new content created at the flagship malls 24 and the peripheral malls 26. The integration system 10 seamlessly integrates the electronic mall 28 with the flagship malls 24 and the peripheral malls 26 at several communications points through the event pages 180 by providing live access through the event pages 180 to the events occurring in the flagship malls 24 and the peripheral malls 26 and by further providing subsequent access to the recorded events or content through the content pages 166.

Consumers may watch a program, event or other content through the content pages 166. If the consumers sees an article of clothing, furniture or other product in the movie, program or event in which the are interested in purchasing, the consumer can stop the movie, program or event (or flag the product for after the movie, program or event is complete). The consumer may purchase the product through the mall pages 178, the shopping pages 198, the brand pages 206 or the brand web sites 210a, 210b through 210z as described below. By enabling consumers to easily perform this transaction and purchase the desired products, the integration system 10 provides another point at which the electronic mall 28 and the peripheral malls 26 are seamlessly integrated using aggregated brand entertainment.

Flagship Pages

Consumers may directly access the flagship malls 24 through a flagship link 172 on the home page 162 which connects the consumers to the flagship pages 174. The flagship pages 174 include more information regarding the flagship malls 24 and enables the consumer to literally view on a real time or delayed basis the event areas 56 or consumer activity in the event area 56 in the flagship malls 24. The consumers in the electronic mall 28 may, within a matter of seconds or minutes, visit the flagship malls 24 in Los Angeles, New York, Miami, Las Vegas, Washington D.C., London and Tokyo. The flagship pages 174 further enable the consumers to participate in events occurring in the flagship malls 24. In the example described above, the consumers are able to participate in the video game and simultaneously be able to watch the celebrity's reactions to playing the video game against the consumer through the electronic mall 28 at the flagship pages 174. This is another point at which the

integration system 10 seamlessly integrates the electronic mall 28 with the flagship malls 24 and the peripheral malls 26.

Celebrity Pages

Consumers may find out more information regarding celebrities, celebrity appearances and products and services used by celebrities through a celebrities link 192 on the home page 162 which connects the consumers to the celebrities pages 194. For instance, consumers may find out more information on celebrities, the types of products celebrities use, the places celebrities will appear and other relevant information regarding celebrities at the celebrities pages 194.

E-mail & Chat Rooms

The integration system provides e-mail and chat room services to consumers through the integration system web site 160. Consumers may send and receive e-mail through the e-mail link 184 on the home page 162 which connects the consumers to the e-mail pages 186. Consumers may access chat rooms (or bulletin boards) through the chat room link 200 on the home page 162 which connects consumers to the chat room pages 202. These e-mail and chat room components of the integration system 10 enable direct communication including video conferencing or other such communication between consumers or salespersons in the flagship malls 24, the peripheral malls 26 and the electronic mall 28. For instance, a consumer or salesperson in a digital store 64 in a peripheral mall 26 or other suitable location may enter a chat room or a video conference via an electronic mall or Internet access terminal 70 in the digital store 64 and have a discussion about the products being displayed in the digital store 64 with a consumer who has entered the chat room from his or her home after learning about the products on display in the digital store 64 by

accessing the mall pages 178. This type of direct consumer to consumer or salesperson to consumer contact illustrates another point or channel at which the integration system 10 of the present invention seamlessly integrates the flagship malls 24, the peripheral malls 26 and the electronic mall 28. The integration system may also use e-mail to conduct targeted advertising and marketing to consumers including product and product feature or style recommendations.

Preferred Embodiment of the Internet Site, E-mail and Chat Rooms

The internet website and its various components are shown in Figs. 30 through 36. Fig. 30 provides a high level overview of the internet web site 1159 of the system 1010 of the present invention. In general, the technical architecture of the internet site 1159 comprise four components: (i) the e-mail system 2000; (ii) the web system 1014; (iii) the client system 2020; and (iv) the streaming media system 2016, all of which interface and interact with the NOC 1400 and internet 1416. The e-mail system 2000 provides mail accounts and mailboxes for individuals who register with the network 1022. This system 2000 enables registered users to receive e-mail at a specified addresses and to send e-mail out.

The web system 2014 provides: (i) system content to users of the internet 1416 and the stores 1064; (ii) provides access to the registration system 1534; and (iii) is the interface through which the consumers access on-line shopping. The chat system 2020 provides chat rooms that continually attract consumers to the system 1010 for discussions on fashion, music, movies, etc. in real time. This system 2020 also enables registered users to: (i) access a plurality of many-to-many chat rooms, both moderated and non-moderated; (ii) identify members of their "buddy list" who are

on-line at any given time; and (iii) send one-to-one instant messages to other members in a variety of supported formats. The streaming media system 2016 provides foundation for streaming audio and video in a variety of de facto standard formats, such as WAV, AIFF, MIDI and MP3 (for audio) and MOV, ASF, AVI, MPEG, and QuickTime (for video). Fig. 30 also illustrates that registered users and consumers can access the above systems through the internet 1416 using the mall lumens 1490 and one or more user desktop systems 1608, either narrowband user desktop systems 1608A and broadband user desktop systems 1608B.

Fig. 31 illustrates the detailed technical architecture of the internet web sites 1159 of Fig. 30. Fig. 31 illustrates that the internet site 1159 interfaces the content control 1402 and business control system 1406. Further, the internet site 1159 enables the e-mail system 2000, the web system 1014, the client system 2020, and the streaming media system 2016 to interface with and access the personalization system 1548, the affinity system 1610, the content and catalogue system 1582 and the commerce transaction system.

The personalization and affinity systems 1548 and 1610 respectively, enable the system 1010 to collect information about the users and consumers, where such information is both explicit (i.e., information specifically provided by the consumer) and implicit (i.e., information about the consumers' on-line behavior collected by the system 1010). The information is available to the system 1010 in real-time, as well as stored in the database 1586 for off-line analysis. Systems 1548 and 1610 enable the system 1010 to create a web page in real time personalized for the user, based on the user's identity, stored cookies and information stored in the membership database. This requires an interface to the content and catalogue system 1582 where the content is built and the streaming media server for the personalization of this

information. In this manner, products, prices, displays and merchandising of special offers can be tailored to individual consumers.

The internet site 1159 enables users and consumers to access the content and catalogue system 1582 for catalog access, product search, and product comparisons. The internet site 1159 provides users the capability to search for a product on the local site using various attributes (e.g., search by artist, title, the title of a track, the production label, etc.) and includes the ability to search associated merchants' catalogues. In addition, this functionality is able to display the attributes of a large number of products offered through the internet site 1159 side-by-side, for comparison.

The internet site 1159 also enables users and consumers to access the commerce transaction system (not shown in Fig. 31) which enables the users and consumers to: (i) access sales processing; (ii) follow links to associated merchants' catalogues and accumulate merchandise; (iii) query the local internet site 1159 inventory, if any, and the inventories of the appropriate associated merchants, in real-time; (iv) have the shipping and handling charges and applicable taxes computed; (v) pay via credit card, debit card, purchase order, shoppers' account, affinity points, coupon, gift certificate, merchandise credit and COD.

Fig. 31 also illustrates that the internet site 1159 interfaces and interacts with the order management 1574 of the business control 1406. After the users and consumers have purchased products and services using the internet site 1159, this interaction enables the system 1010 to: (i) track the status of full or partial orders and shipments; (ii) manage and fulfill back orders; (iii) enable customers to cancel back-ordered merchandise without canceling the entire order; (iv) enable customers to

authorize and handle returns; (v) issue credit to the consumers' accounts for returns, canceled orders (whole or partial) and mispriced merchandise.

The user and consumer can also purchase merchandise from the several associated merchants' sites using the internet site 1159 in a single customer transaction, generating a single customer order requiring a single payment. Subsequently, the business control 1405 distributes sub-orders to the appropriate associated merchants who fulfill these sub-orders using their own fulfillment systems and procedures.

The internet site 1159 includes an advertising system 1614 that interacts with the store content and catalogue system 1582, the personalization database 1586 and the advertising creation and distribution system 1616 (including an advertising database 1618). The advertising system 1614 illustrated in Fig. 31 provides four basic advertising functions for the system 1010: (i) ad targeting; (ii) ad delivery; (iii) ad tracking and rerouting; and (iv) ad forecasting and management.

Using the advertising creating and distribution system 1616, the system 1614 provides online advertising through the network 1400 to one site or a plurality of sites. In addition, the performance of an advertisement can be forecast based on past consumer activity using the personalization database 1586. The system 1614 can target specific consumers in an environmental region based on variables such as zip code, city, state or county, or consumer registration information (e.g., age, gender, etc.). The system 1614 also targets consumers based on page content (i.e., targets visitors to specific pages).

The advertising system 1614 enables the system 1010 to deliver ads through the network 1400, coordinating ad delivery across multiple servers. A variety of delivery specifications can be chosen, including: (i) the ad start and end dates; (ii)

delivery of ads during specific days of the week; (iii) delivery of ads during specific times of day relative to a zone; (iv) ending an ad based on certain defined criteria such as the number of times viewed; and (v) preventing competing ads from running on the same page.

The system 1614 also enables ads to be tracked and forecast. Ad tracking and forecasting includes using the system 1614 to monitor how many times an ad is delivered and the number of times it is viewed (i.e., clicked). Ad forecasting and management includes using the system 1616 to manage ads across one or many sites and predict the future performance of an ad based on past activity.

The content control center or system 1402 enables the system 1010 to create, edit, prepare, store and deliver system content to the network 1022. The content control center or system 1402 includes at least two media distribution devices that distribute the media in a streaming or linear format.

The streaming media distribution system preferably provides large amounts of video/audio to the network 1022 in a streaming format. Providing video/audio in a streaming format reduces storage space and transmission time and enables the consumer to view the video/audio as it is transmitted. The streaming media distribution system generally comprises a streaming media server 2016 that interfaces with the network 1022, the streaming media creation server 1626 and databases 1628. The video/audio is created on or received by the streaming media creation device 1626, stored on the database 1632 and transmitted to the streaming media server 2016 for transmission to and through the network.

The linear media distribution system preferably does not compress the video/audio and is thus generally used with smaller amounts of video/audio information. In the preferred embodiment, the video/audio is created in the linear

media creation server 1622 and stored on the database 1624. The media is communicated to the network 1022 via this linear media distribution. In one preferred embodiment, the linear media distribution system interfaces with the in mall video network 1414 (best seen in Fig. 13).

The content control system 1402 also includes a content creation and advertising creation and distribution devices, 1634 and 1616 respectively. The content creation device 1634 creates content that is stored on the database 1636 and provided to the content and catalogue 1582. The advertising creation and distribution device 1616 creates advertising and distributes it to the network 1022.

A preferred embodiment of the e-mail system 2000 of the internet site 1159 is illustrated in Fig. 32. One requirement of the e-mail system 2000 is that it be able to grow to meet the demands of the network 1022. The application used to provide e-mail requires an architecture that is designed to support hundreds of thousands of mailboxes. The e-mail system 2000 must include: (i) native support for internet e-mail standards; (ii) high capacity and performance; (iii) high availability and reliability; and (iv) the ability to reject external relay mail, a common practice that prevents "spamming."

The preferred e-mail system 2000 should store messages in native Multipurpose Internet Mail Extension (MIME) format, assuring full message fidelity, and communicate using Simple Mail Transport Protocol (SMTP), MIME, Post Office protocol version 3 (POP3) or IMAP4. The e-mail system illustrated in Fig. 32 includes: (i) a message transport agent (MTA) server 2002; (ii) a message store server 2004; (iii) the POP3 server 2008; and (iv) the directory 2012.

The MTA server 2002 interfaces with port 25 enabling the system 2000 to send and receive e-mail. The MTA server 2002 is responsible for handling the arrival of

incoming messages, message routing within the system 2000, and message delivery to remote servers. The server 2002 supports the SMTP and MIME protocols and can handle multiple recipients per message. It will be appreciated that while only one server 2002 is discussed, at least two servers 2002A and 2002B are contemplated. The message store server 2004 (including database and file system 2006) maintains the mailboxes for all the users of the system 2000. The message store server is responsible for storing messages in a user's mailbox, receiving messages from the MTA 2002 and servicing requests for message retrieval from the POP3 server 2008.

The POP3 server 2008 (ranging in number from 1 through N, where N is determined by the requirements of the system 2000) runs POP3 software that enables the users to access their mailboxes. The POP3 server 2008 interfaces with both the MTA and message store servers 2002 and 2004 respectively, enabling users to access the system 2000, retrieve their e-mail from the server 2004 and disconnect. The directory server 2010 provides data to the user and indicates where their mailboxes reside within the mail system 2000. Mail metadata is stored in a relational directory database 2012, providing the users rapid access to their mailbox information

One preferred embodiment of a chat system 2020 is illustrated in Fig. 33. The chat system 2020 (also referred to as the Internet Relay Chat (IRC)) is a multi-user multi-channel chatting network. It enables consumers accessing the internet 1416 to talk to one another in real-time, including the ability for two or more users to talk at once. When a user types something, it is instantly transmitted around the world to other users who might be watching their terminals at the same time. They can then type something and responding to the first user's messages, and vice versa. It should be appreciated that chat-enabled web sites consistently demonstrate higher repeat

visit rates and keep users online longer. Interactivity adds a sense of belonging, which adds to consumer satisfaction and retention.

The system 2020 is based on a client-server model that connects to a server 2022. In the preferred embodiment, the chat server 2022 is software that transports data (messages) from one user to another. The chat system 2020 works from a single database 2024, as shown in Fig. 33 and interfaces with a data network 2026. A chat server 2028 interfaces with both the data network 2026 and the internet 1416. While only one chat server 2028 is discussed, two or more servers 2028A and 2028B are contemplated. The chat servers 2028A and 2028B transport the data from the data network 2026 to the internet 1416. In turn, a plurality of web browsers 2030A through 2030N communicate with the internet 1416.

One technology used for delivering content over the internet 1416 is illustrated in Fig. 34. A streaming media system 2016 provides audio, video, and other multimedia through the internet 1416 or intranet networks in real-time. The streaming media system requires content production and content transfer. The content is transferred to a content server which transmits the streaming data over networks to the consumers' media players on a live or on-demand basis.

The preferred embodiment of the system 2016 includes a media source 2032 comprising a video camera 2032A and/or microphone 2032B. Two interfacing computing elements are also contemplated, the first computing element 2034 includes a video capture card and interfaces with the video camera 2032A and/or microphone 2032B capturing the video/audio. The second computing element 3036 is connected by a network 2038 (which includes the internet 1416, a LAN 1464 or other network) to an audience who view the content on their individual viewing devices 2040.

A content creator films an event using a video camera 2032A or obtains video content from other sources as illustrated in Fig. 34. The computer's 2034 video capture card digitizes the video signal (if required) while the encoder software compresses the digital signal forming a digital file, to be edited later as is well known in the art, or forms a live stream for immediate broadcast. This file or live stream is transmitted to computer software installed on the second server or computing element 2038. The digitized file of the event is then accessed over a network 2038 on a live or on-demand basis by multiple end-users using media player software on their personal computers or other personal electronic devices 2040 (such as WebTV).

A preferred embodiment of the video conferencing management system 1544 is illustrated in Fig. 35. The system 1544 comprises video conferencing terminals 1546 that provide real-time, two-way video conferencing. The control system 1544 interfaces with the video conferencing in the stores 1064, the network 1022, and a centralized control for video conferencing at the NOC 1400. This management system is a part of the NOC 1400.

The preferred embodiment of the video conferencing system 1544 uses an H.323 video conferencing standard in both point-to-point and point-to-multipoint audio and video conferencing over the network 1022. Video conferencing terminals 1546 and supporting equipment carry real-time voice and data over the network 1022. The terminals 1546 signals the calls (i.e., call signaling phase) using a standard protocol to initiate the communications. After the call-signaling phase, the terminals 1546 proceed to the call control phase where terminals exchange capabilities and logical channel information using an H.245 video conferencing protocol. Once the call has been established, audio and video are initiated.

H.323 serves as the overall standard for a plurality of recommendations defined by the International Telecommunication Union (ITU). H.323 defines multimedia conferencing over packet-switched, generally IP-based, networks such as LANs/WANs and the internet 1416. It covers both point-to-point and multipoint conferencing. The ITU H.323 recommendation describes the components of an H.323 compliant system which may include video conferencing terminals 1546, gateways, gatekeepers, multipoint controllers ("MCs"), multipoint processors ("MPs"), and multipoint control units ("MCUs").

An MC is a LAN-based H.323 device that controls three or more terminals participating in multipoint conferences. It may also control a point-to-point conference which may develop into a multipoint conference. The MC conducts the capabilities negotiation with all terminals 1546 to establish common levels of communication. It may also control conference resources such as multicast video. The MC does not mix or switch audio, video and data. A multipoint processor (MP) is an H.323 device that centrally processes audio, video, and/or data streams in a multipoint conference. The MP mixes, switches, and performs other processing duties for streams controlled by an MC. It may process one or many media streams depending upon the type of conference it is supporting.

Gatekeepers 2042 are administration servers that provide call control services to H.323 endpoints. An H.323 endpoint can be a terminal, gateway, or multipoint control unit. The gatekeepers 2042 provides address translation, admissions control, bandwidth control, and zone management. In one preferred embodiment depicted in Fig. 35, the gatekeeper 2042 shown interfacing with the terminals 1546 and a router master control LAN 2044 (which interfaces with a router 2046) includes both a gateway and a multipoint control unit. The gateways 2042 enable H.323 endpoints to

communicate with non-H.323 endpoints by providing translation between packet-based networks and circuit-switched networks. A gateway 2042 is required if the system 1544 needs to communicate with H.323 video conferencing system.

MCUs 2050 provide support for multipoint conferences between three or more endpoints. An MCU 2050 consists of an MC and optional MP. The MC negotiates with the endpoints (i.e., terminals 1546) to achieve common levels of communication for multipoint conference. The MP provides mixing, switching, or other processing of media streams from connected endpoints. The MCU 2050 interfaces with a router 2048 enabling face-to-face discussions among participants in multiple locations. The MCU 2050 connects three or more H.323 video conference endpoints into a single multi-participant meeting. It combines video, audio, and data streams from multiple conference endpoints into one multi-location interactive session. It should be appreciated that routers 2046 and 2048 could be the same router 1520 of the store LAN 1464 of Fig. 21 or different routers.

Three different types of video conferences are supported by the system 1010: (i) digital store to digital store; (ii) digital store to customer service station or expert; and (iii) expert or celebrity to digital store. While only three types of conferences are discussed more are contemplated. Moreover, the system 1010 is scalable, adaptable and able to handle different types of video conferencing.

A digital store location to digital store location conference enables customers to schedule a point-to-point session with a friend at another location in any other digital store nationwide. It should be appreciated that these conferences take place in the lounge. The system provides an incentive to limit these conferences. If one conference were scheduled, for example, by hour per day in each time zone the system could transmit 450 simultaneous one-to-one video conferences. Preferably,

these conferences are scheduled in advance, and the system limits the total number of these conferences that can occur per hour in each time zone. Headphones may be appropriate to provide some privacy. While these conferences are in operation, all other video conferences would be halted.

The digital store location to customer service station or product expert enables customers to speak directly to a customer service representative or expert from a specific area. This is similar to the digital store location to digital store location conferences except there are a smaller number of experts available for conferencing than there are store locations. Multiple viewers can view the conversation, but only one viewer can talk at a time. It is anticipated that thirty-six experts could support ten terminals each, so that the system could provide a total of 360 listeners and one two-way conversation per area.

The expert or celebrity to digital store conference involves an expert or celebrity providing a lecture or show-type presentation from a central location. This is a multicast broadcast to all video conferencing terminals, broadcast either to a specific product area or to all video conferencing terminals in the lounge. It is anticipated that one terminal in each product areas or lounge would participate in the conference, which would involve one presenter and up to 300 viewers in each lounge. It is anticipated that six people nationally could ask the expert or celebrity questions for each area.

Firewalls are used to support H.323 applications, using a combination of TCP and UDP ports. An H.323 call is made up of numerous simultaneous connections and uses both static ports for call connection and multiple dynamic ports. H.323 applications also use dynamically allocated sockets for audio, video and data channels. Thus, a firewall must include features enabling all H.323 traffic to pass.

Preferably, the firewall uses an H.323 proxy or similar mechanism to enable traffic to pass as long as the control channel is active. In addition, the firewall must include enough bandwidth to carry video conferencing.

Using multicast can provide savings on network bandwidth. To implement multicasting on the network 1023 requires that all components (such as the TCF/IP stacks, network interface cards, operating systems, client terminals, MCUs, gateways, routers, switches, etc.) comply with the IP multicast standard. The hardware and software must also comply with this standard..

One preferred embodiment of the ATM architecture for the ATM system 1700 is illustrated in Fig. 36. The ATM System 1700 in the network 1022 provides point-to-multipoint ("PMP") multicasting capability. PMP circuits enable customers to send traffic from a central or root location 1702 to many end-points or leaves 1706 simultaneously. The customer sends only one instance (copy) of the data (cells) through the network 1400 and the data (cells) are replicated inside the network 1400 before being delivered to the end points. It should be appreciated that the cells are replicated at the furthest node inside the network, reducing trunk bandwidth required to carry PMP traffic. Users need send only one data stream through the network 1400, thus reducing their access cost by saving on bandwidth at the root location 1704. The 1708 ATM network 1710 comprises plurality of replication nodes 1712.

In PMP, the traffic flows in only one direction – root 1702 to the leaves 1706 (i.e., the traffic does not flow from leaves 1706 to the root 1702 or from one leaf 1704 to another leaf 1704). Hence, the CAC control for the ATM system 1700 reserves bandwidth in only one direction (root to leaf direction). Also, all leaves have identical Quality of Service ("QOS") and traffic descriptors and should match the root's QOS and traffic descriptor.

Figs. 37 and 38 illustrate alternate configurations of the video conferencing system 1544 illustrated in Fib. 35. Fig. 37 illustrates the video conferencing system 1544 in a single multipoint video conferencing configuration, and Fig. 38 illustrates the video conferencing system 1544 in a multiple multipoint video conferencing configuration.

Peripheral Mall Pages

Referring back to Fig. 29, consumers may access the peripheral malls 26 through a mall link 176 on the home page 162 which connects consumers to the mall pages 178. The mall pages 178 include information regarding the peripheral malls 26, events occurring in the peripheral malls 26, events being broadcast at the peripheral malls 26 from the flagship malls 24, products being displayed in the digital stores 64 in the peripheral malls 26, information regarding stores in the peripheral malls 26, links to the mall web sites 214, local mall news and sales and links to the store web sites (not shown). Direct access to the stores and products in the peripheral malls 26 is thereby provided by the electronic mall 28. If a consumer sees a product in a store in the peripheral mall 26, but decides not to purchase it, the consumer can store information regarding the product (preferably from the bar code on the product or an additional tag on the product) in the consumer data system 18. If the consumer subsequently decides to purchase that product, the information on the product is accessible by the consumer through the electronic mall 28 or the other distribution channels such as the telephone. The consumer can then easily purchase that product through the electronic mall 28, assured of the quality of the product which is normally difficult to determine using the two dimensional Internet. Similarly, if a consumer sees a product at the electronic mall 28, the consumer may record its interest in the

product, determine which physical mall has the product and purchase the product at that mall. The integration system 10 thereby seamlessly integrates the physical and electronic malls, in essence, by bringing access to the physical mall at the electronic mall and access to the electronic mall at the physical malls.

5

Purchasing Products and Services

The integration system 10 facilitates consumer purchase of products and services through the electronic mall 28. Consumers may: (i) search for products, services and information provided by integration system 10 via a searching link 188 on 10 the home page 162 which connects the consumers to searching pages 190; (ii) purchase products and services through the shopping link 196 on the home page 162 which connects the consumers to the shopping pages 198; (iii) access information and products of brand entertainment and product companies marketed by the integration system 10 through brands link 204 which connects the consumers to specified brand 15 pages 206; and (iv) may directly access the web sites of a plurality of entertainment and product brands companies marketed by the integration system 10 through brand links 208a, 208b through 208z on the home page 162. Consumers may purchase products and services directly through the integration system shopping web pages 198, through the mall web site 214 or through the brand web sites 210a, 210b through 20 210z. The integration system shopping web pages 198, the mall web site 214 and the brand web sites 210a, 210b and 210z each have their own payment processes 220, 222 and 224, fulfillment processes 226, 228 and 230 and distribution processes 232, 234 and 236, respectively. These distribution systems could be combined or modified from existing distribution systems.

The integration system 10 could include real time credit card transaction processing through the network 22 and inventory management systems for order fulfillment, online order support, telephone and facsimile support, customer service locations at the physical malls, electronic customer service via the electronic mall (24 hours per day 7 days per week), manufacturer and retail reporting capabilities and synchronized inventory databases with real-time access to available products and services. The malls could thus be used as distribution centers, and in some cases to provide just in time distribution of products to consumers.

Affinity System

When consumers access the integration system web site 162, the integration system performs certain data collection and consumer profile processes to learn more information regarding the consumer, the consumer's preferences and the other web sites that the consumer has visited. The integration system 10 stores this data in the consumer data system 18, and uses this data to judge the performance of the integration system 10 and to provide feedback to the malls, stores in the malls and the brand companies which participate in the integration system. The integration system 10 affinity program also more effectively assists brands to market more products to consumers. The affinity program link 168 on the home page 162 links consumers to the affinity system pages 170. From the affinity system pages 170, the consumers can access certain information in the affinity databases 18a, 18b, 18c and 18d (as illustrated in Fig. 4) to learn more about the affinity system, determine the status of their usage and rewards or prizes they have earned. A personal shopper or agent 19 can also use the affinity system pages 170 to learn more about the consumer and the consumer's preferences. Retailers and other businesses may also be able to use the

affinity system pages 170 to obtain limited information regarding the consumers as mentioned above.

The electronic mall 28 and specifically the integration system web site 160 including all of the pages therein will also be able to alter the content, products and services available to each individual consumer based on the information stored in the consumer data system 18 on that individual consumer. Thus, the integration system can provide each consumer a personalized experience at the electronic mall 28. For instance, the integration system may only connect the consumer to local malls, stores preferred by the consumer or products preferred by the consumer based on an understanding of the consumer's interests.

Preferred Embodiment of the Affinity System

One preferred embodiment of the affinity system 1610 within the consumer data system 1018 is illustrated in Fig. 39. The affinity system 1610 is a transaction system that enables network members to receive credit preferably in the form of points. The consumers receive points for making purchases within the network 1022, redeem these points for merchandise and services, and receive bonus points for such activities as referrals, participation in sponsored events, and providing data about themselves.

The affinity system 1610: (i) collects data on and monitors the consumers' use and effectiveness of the integration system 1010; (ii) creates interconnections between the multiple distribution channels; (iii) rewards consumers for using the integration system 1010 to obtain products, services, entertainment, programming and information; (iv) provides incentives to consumers to use the various distribution channels in the future; and (v) collects data on consumer interest in different products,

services and entertainment. This collection enables the consumers to subsequently purchase such products, services and entertainment and enables the retailers to provide information to consumers regarding such products, services and entertainment.

The consumer data system 1018 collects such data from the malls, the digital store 1064 and the other distribution channels. The consumer data system 1018 stores this data in an affinity database 2052 which includes: (i) a consumer profile information database; (ii) a consumer points database; (iii) a consumer products database; and (iv) a consumer product interest database. These databases can be used to store information about the consumer, enabling the consumer to purchase additional complementary products, services and entertainment and to purchase products, services and entertainment which the consumer has already looked at, tried on or otherwise expressed an interest in.

The affinity system 1610 provides services used by the system 1010, including messages to the affinity system 1610 that trigger affinity transactions. Some of the services provided by the system 1610 require high availability, and thus are distributed locally to stores 1610. An example of a few of these services, and how they interact with other systems are described below.

The system 1610 preferably uses a commercially available integration server 2054 (such as servers provided by TIBCO and Mercator) which enable the interfaces between the components, manage component and data distribution, and provide system management functions. Certain core attributes, such as account balance, are preferably replicated across the network 1022 to permit greater fault tolerance and permit some affinity operations to continue even during a partial system outage.

The system 1010 creates an affinity account for each member tracking his or her affinity transactions, profile information and account status information. The registration server 1534 collects information about new members, and then provisions (or allocates) various services (e-mail account, chat privileges/identity etc.) to the new members. As part of this provisioning, a message is sent to the integration server 2054, which routes a copy to the affinity server 1610. The account management service creates an account for the new client based on the information gathered by the registration server 1534. It should also be appreciated that the registration server cancels or de-activates the registration server of the account for members leaving the system 1010. In the event of a network failure, the local registration server in the store provides a local affinity account, which is replicated back to the master account in the affinity system 1610 when the network is restored.

Members earn points based on their purchases within the system 1010. When a purchase is made, a message is created about the transaction containing such information as the merchant id, member id, item (SKU), quantity, price, transaction type (purchase, redemption, return, etc). This transaction is also routed through the integration server 2054 to the affinity server.

The affinity server 1446 uses this information to determine if a purchase was made, calculate the proper number of affinity points, and update the consumers' account balance. The affinity system 1610 preferably stores specialized data about merchants and merchandise that permits the system to assign variable points for different purchases. For example, double points may be awarded for every purchase during a specific time period.

The affinity server 1446 also processes affinity point redemptions, generating a redemption message identical to a regular purchase. The affinity system 1610

authorizes all transactions. Once the transaction is completed by the affinity server 1610, a message (identical in structure to a normal purchase) is created by the system and routed to affinity system 1610. The account balance is then reduced by the proper number of points.

Content Production/Processing System

The integration system 1010 facilitates the production and processing of substantial volumes of quality content managed by the content production/processing system 20, a configuration of which is generally illustrated in Fig. 40. Advertising agencies, brand builders, writers, artists, directors, producers and other content or developers 221 ("the content developers") independently or jointly create, develop and schedule the production of content. This content preferably aggregates or combines one or more celebrities 223a, 223b through 223z with one or more brand products or services 225a, 225b through 225z. Certain celebrities 223a, 223b through 223z and certain brands 225a, 225b through 225z are combined based upon predetermined relationships or contractual agreements between the celebrities and brand companies. By combining multiple brands in a signal program, the content developer can create aggregated retail content which reduces the relative production cost to each brand company and solves the problem of exorbitant production costs to create aggregated retail content. This content may be produced in public studios or event areas 56 (such as in the flagship malls 24), in private studios 66 which are part of the integration system 10 (including sound stages in the flagship malls 24 or peripheral malls 26), or in out-sourced studios 227 which are not per se part of the integration system 10 but which are used by the content developers 221 to create additional content not capable of being produced in the flagship malls 24 or the peripheral malls 26. The content

developers 221 also produce content at mobile production units 229, at fixed production units 231, or during public and private events 233 such as sporting events. Content specifically relating to certain products may be made in product development areas 237 and in stores 235 which sell or display such products such as the e-laboratory 71. Additional content can be independently produced by third party content produces 239 with or without the involvement of the integration system 10 or the content developers 221. It should also be appreciated that content for the content production/processing system 20 could be produced in various other manners and at various locations around the world including the production and use of meta-programmed content.

The content production/processing system 20 transmits the content produced at these diverse locations over the distribution network 22 to the global computer control system 12. The global computer control system 12 indexes all of the content it receives and stores the content in the appropriate digital or analog content storage systems 14a and 14b, respectively, to facilitate subsequent access to the content. The content production/processing system 20 may, if necessary, re-purpose certain content for distribution or further transmission on other channels of communications. In particular, content production/processing system 20 includes a wireless re-purpose system 238 for re-purposing content for wireless transmission, a radio re-purpose system 240 for re-purposing content for radio transmission, a television re-purpose system 242 for re-purposing content for television transmission, an Internet re-purpose system 244 for re-purposing content for Internet transmission, a mall monitor re-purpose system 246 for re-purposing content for mall monitor transmission, a digital store re-purpose system 248 for re-purposing content for digital store transmission and at least one media re-purpose system 250 for re-purposing content for other

media such as magazines. The re-purposed content is transmitted to the global computer control system 12. The global computer control system 12 indexes all of this re-purposed content and stores this content in the appropriate digital or analog content storage databases 14a and 14b, respectively, for subsequent use or distribution.

Preferred Embodiment of the Content Production/Processing System

One preferred configuration of the content control system 1402 is generally illustrated in Figs. 41 through 43. The content control system 1402 conceptualizes, creates, procures, edits, prepares, stores, and delivers content to the system 1010 for presentation to the consumers through the network 1022. The system 1010 displays the system content on various presentation devices (e.g., screens 1080, lumens 1062 and kiosks, etc.), in addition to making this content available for web pages, teleconferencing, and live events as illustrated in Fig. 42.

The content control system 1402 of system 1010 further provides: (i) a content planning system 2056; (ii) a master control system 2058; (iii) a content production system 2060; (iv) a usage management system 2062; and (v) a delivery management system 2064 as illustrated in Figs. 44 to 48. The content planning system 2056 includes all processes and system components for creating and inventing the various themes, sources, messages and merchandise that will be delivered and includes: (i) long-term content planning; (ii) mid-term content planning; (iii) theme project planning and budgeting; (iv) event project planning and budgeting; (v) ambience project planning and budgeting; and (v) content performance tracking.

The master control system 2058 includes all the processes and system components required to produce a particular package of content, including: (i) content

management; (ii) scheduling; (iii) content distribution; (iv) usage tracking; and (v) all processes and system components necessary to control video conferencing. The content production system 2060 encompasses all processes and system components involved in the actual production of system content, including: (i) content library; (ii) media storage; (iii) content editing; (iv) conversion; (v) studio interface; and (vi) management. The system content is produced for the: (i) in-store video; (ii) in-store web site; (iii) streaming media; (iv) internet web site; and (v) advertisements.

The schematic diagram of the preferred embodiment of the architecture for the content control system 1402 is illustrated in Fig. 42. The storage medium used to store media includes but is not limited to videotapes, CDs, DVDs or any other suitable medium for content storage. The information is placed in the media library which stores and tracks all content use, creating the daily content for the stores' displays, internet site, and streaming media application. Staging servers are included in the content control architecture enabling web content, the streaming media content, and support applications to be staged and viewed before the content is sent to the internet site or store 1064 for production hosting.

One preferred embodiment of the architecture of the store content presentation system 2087 is illustrated in Fig. 43. The system 2087 interacts with the personalization system 1584 (including the personalization database 1586 and personalization and affinity server 1446), enabling the system content to be personalized for the members based on the member's information or preferences. The personalization system 2087 uses implicit consumer behavior (e.g., purchase history, interested items from shop-lists, page views, etc.) and explicit behavior (e.g., favorite brands or retailers) to construct the personalized store contents. The personalization

database 1586 interacts with the registration system 1528, recording and storing information about the members and providing that information to the system 1584.

The personalization system 2087 interacts with the consumers' web browser and the web server application 2084. The web server 2084 accepts requests for pages from the consumer and delivers those pages to the user's web browser. The web server 2084 also accesses the store content application 2076 and affinity manager 1584 via the data exchange transport 2089, providing personalized store contents to the user.

The content application 2076 is responsible for page generation, document caching, template caching and the personalization form. The consumer uses the personalization form to enter data including his/her name and address. The personalization and affinity manager 1584 enables the system 1010 to customize the delivered content based on the consumer information and the consumer's activity.

A high level schematic diagram of the content delivery management process 2064 of Fig. 41 is illustrated in Fig. 44. The content delivery management system 2064 enables the content manager 2142 (shown in Fig. 45) and other site support personnel to create system content and place the content in the content database. The content manager 2142 is responsible for: (i) content production; (ii) content creation; (iii) template construction; and (iv) workflow to support this process.

Using input provided by the member/consumer 2130, the partners 2132, the competitive analyst 2134 among others. The content manager 2142 creates or procures the system content and provides it to the system 1010. Fig. 44 illustrates that the content delivery management includes: (i) content planning 2122; (ii) content project mobilization 2124; (iii) content production 2126; and (iv) content delivery.

A high level schematic diagram shown illustrating content planning process 2122 is provided in Fig. 45. The content planning process 2122 identifies the processes and system components the content manager 2142 uses to determine what content will be delivered to the system 1010 on what schedule, and how it will be created or procured. During the content planning process 2122 the content manager 2142 uses: (i) a long-term content planning cycle 2144; (ii) a mid-term content planning cycle 2146; (iii) a theme project planning and budgeting 2148; (iv) an event project planning and budgeting 2150; (v) ambience project planning and budgeting 2152; and (vi) content performance tracking 2154, to determine what content to deliver to the system.

The long-term content planning cycle 2144 is ongoing, evaluating content 12 to 18 months in the future. During the cycle themes, events and ambience to be developed and delivered within that time period are selected. The cycle 2144 looks to the future plans of the system 1010 based on results to date, content on hand, seasonal requirements and trends in the marketplace. The long-term content planning cycle 2144 takes into account input and feedback received from competitive analysts 2134, members/consumers 2130 and suppliers 1420. The content manager 2142 evaluates the system content including: (i) identifying opportunities; (ii) verifying content budget for the planning cycle; (iii) selecting themes for the planning cycle; and (iv) selecting the ambience for the planning cycle.

The mid-term content planning cycle 2146 focuses on system content six months in the future, developing a schedule for that period that includes themes, providers, brands and products. The mid-term content planning cycle 2146 evaluates system content for all the areas of interest ("AOIs"), then provides a planning schedule for producing the system content. For example, it is anticipated that the theme for 7

AOIs require 2 weeks for theme planning, 4 weeks for mobilization and launch, 6-8 weeks for products, a 3-4 week margin of delay and then 4-6 weeks of deployment. This means that for any one AOI a six month horizon is required to address the life cycle of the promotions.

During the theme project planning and budgeting process 2148, the content manager 2142 develops the theme details, including a project plan and budget. Theme project planning and budgeting 2148 requires that the content manager 2142: (i) define a theme scope; (ii) identify theme content components; (iii) develop a theme content plan; and (iv) develop a theme budget.

Event project planning and budgeting 2150 requires the content manager 2142 identify such factors as the event scope and the event content components. The content manager 2142 develops an event project plan and budget, planning and budgeting for live celebrities or performers.

In the ambience project planning and budgeting process 2152 the content manager 2142 analyses requirements for ambience content for the system content, with a goal of producing sufficient selection of the ambience for constant refreshing. In this process, the manager 2142 identifies the budget and timelines prior to launching the ambience content projects.

The content performance tracking process 2154 uses the input of at least the suppliers 1420, the finance manager 2140, the affinity program manager 2136 and the membership manager 2138. This process involves tracking the performance of themes and content in order to guide the content manager 2142 in making better decisions in the future. The process includes classifying each packet of information, setting performance success criteria, and identifying how to gather information for evaluation.

A high level schematic diagram illustrating a content project and mobilization planning process 2124 is illustrated in Fig. 46. The content project mobilization process 2124 comprises all the processes and system components used to identify and bring together the various parties required to produce a particular content package. This includes a content design and specification process 2158. This process requires that the content planner 2170 determine the specification of the content to be acquired or developed. This generates in a specification with sufficient used to identify a match in the content library or enable the content provider 2145 to produce the required content.

The creative content assignment process 2160 locates a content source or producer required for each element of the content package and establishes a business and project plan for obtaining that content. The brand solicitation process 2162 requires identifying and soliciting content sponsorship opportunities resulting in agreements with one or more brands 2172 to promote their product(s) through network 1022. This process 2162 entails coming to agreement with the brand 2172 on a fiscal basis, identifying the exact information and materials that the brand 2172 will supply, establishing rules of operation during the promotion and establishing how to promote the promotion.

Content project mobilization process 2124 further includes production scheduling 2164. This process 2164 requires a content production manager 2174 establish a production schedule, including producing the timetable for integrating each piece of content or merchandising materials that will be produced. Event performer contracting 2166 requires content provider 2145 interaction to enlist live performers or celebrities (generally referred to as performers 2143) participation. This process 2166 requires that an agreement be reached with the performers 2143 in regards to terms

and expectations to ensure the coordination of the performers 2143 (not shown in Fig. 46) with the balance of the parties responsible for staging any events. The license management process 2168 utilizes a contract manager to ensure the system 1010 has the necessary authorizations to represent and present all brands 2172, logos, trademarks and other content elements provided through the network 1022.

A high level schematic diagram illustrating the content production process 2126 is illustrated in Fig. 47. The content production process 2126 comprises all the processes and system components involved in the production, acquisition and integration of system content, resulting in a package (and sub-packages) of content ready for storing in the content library and/or deployment through the network 1022. A content product management process 2176 utilizes content provider 2145 interaction to create a production schedule to develop and integrate the content package. The content package includes merchandising materials, promotion materials, educational and entertainment content.

A content validation and test process 2178 tests the system content at granular and integrated levels (from both a technical perspective and a content appropriateness perspective) to validate its deployment-readiness. This process 2178 includes selecting and defining test cases, testing and analyzing the test cases, and providing feedback to the content providers 2145. The cross media conversion process 2180 interacts with a content specification writer 2184 and a translator 2185 to convert content from one format (e.g., linear video) to another format (e.g., interactive for the web). The content library registration process 2182 ensures that all content (of any format) gets registered in a content library 2169, so that it is available for immediate and delayed deployment. It is anticipated that the content library 2169 and the media library 2104 are the same, but separate devices are also contemplated.

A high level schematic diagram of the content delivery process 2128 is illustrated in Fig. 48. The content delivery process 2128 comprises all the processes and system components that play a role in delivering the content through the network 1022. The content delivery process 2128 involves the content specification writer's 2184 interaction and includes a content delivery scheduling process 2186 to define delivery targets, delivery rules and delivery milestone dates. This process establishes the schedule for deploying both broadband or narrowband content across the network 1022.

The delivery mechanism pretest process 2188 ensures that the planned delivery mechanism for delivering the scheduled content is operative in advance. This process ensures that sufficient content is available for a short period of time in a specified location (in one embodiment, the content library 2169), and that such content remains unaffected by any network 1022 failures. A local content integration process 2190 selects content stored local or in a specific store 1064 (or plurality of stores 1064 in a specific area) and integrates that local content into the planned broadcast scheme transmitted to the member/consumer 2130. The objective of this process 2190 is to integrate materials of local interest into the system content and transmit that information to the members/consumers 2130 where appropriate.

The content delivery process 2128 further includes a content deployment activation process 2192 that interacts with the content planner 2170 and actually delivers the planned content stream to the members/consumers 2130 at the target locations. The event management process 2194 manages the live event. This process includes preparing a script, conducting rehearsals, verifying event readiness, etc. The objective of this process 2192 is to ensure that a major event is well-executed and brought to proper closure.

Other Distribution Channels

The integration system 10 facilitates the distribution of content and re-purposed content through other distribution channels, a configuration of such distribution channels is generally illustrated in Fig. 49. The integration system 10 incorporates currently existing distribution channels, creates new channels such as the digital store and the convergence channels in the malls and provides additional distribution channels for reaching consumers. The distribution of content over the other distribution channels 22 is controlled by the global computer control system 12 and the local computer control systems 16.

More specifically, the global computer control system 12 may transmit content to an existing radio stations 250 which retransmits the content via radio transmission facilities 252 to radios 254 which are listened to by consumers. The global computer control system 12 may transmit content to regional control systems 256a, 256b through 256z which retransmit the content via television transmission facilities 258 through new dedicated television stations to televisions 260 watched by consumers. The global computer control system 12 may transmit content to the existing television stations 262 which retransmit the content via television transmission facilities 264 to televisions 260 watched by consumers. The television broadcasts may include highlights from different events or the best or most requested events of the integration system.

The global computer control system 12 may transmit content to regional wireless control systems 266 which retransmit the content via transmission facilities 268 to pagers, cellular telephones, digital assistants and other wireless devices 270 used by consumers. The consumers using the wireless devices 270 may access the

content, the affinity system, customer service and shopping options using these wireless devices and respond to messages received from the integration system 10. The global computer control system 12 includes a direct marketing system 272 which distributes content such as mail to consumers though direct marketing and associated mail distribution systems 274.

The global computer control system 12 also distributes content through production and distribution systems 276 and 280 which produce an integration system magazine which is sent to consumers. The magazine is preferably inserted into existing publications which focus on targeted segments. The magazine promotes brand and product messages for the integration system, offers a programming guide to the integration system and promotes stores in local physical malls.

As described above, the global computer control system 12 distributes content to the integration system web site which is accessible by consumers. The integration system 10 thereby employs multiple new and existing channels to distribute content to consumers, to enable consumers to access such content and to provide consumers with one fully integrated system which conveniently embodies multiple channels thereby easing the consumers efforts in dealing with the multiple channels and seamlessly integrates the flagship malls 24, the peripheral malls 26, and the electronic mall 28 and the other distribution channels 29 in one overall computer controlled architecture with a multiplicity of connections or communication points.

Preferred Embodiment of the Teleservices Center

The architecture for one preferred embodiment of the teleservices system or center 1404 is illustrated in Fig. 49. The teleservices system 1404 includes all the processes and system components that enable a call center attendant or agent (not

shown) to answer queries, provide information, trace orders, collect consumer information, and fix problems using call center service terminal 2212. It should be appreciated that the call center attendants may be physically located at the teleservices center 1404 or at some other remote location.

Consumers submit web site or e-mail inquires 2214 and 2216 respectively to the teleservices center 1404. To facilitate web site inquiries 2214, a "Call Me" function incorporated on the web site (preferably in the form of a button). Activating the Call Me function prompts a call center attendant to call or otherwise contact the consumer. It should be appreciated that consumers can also submit their inquiries over the phone (voice or facsimile), through the mail, in person, etc. Using the one or more services terminals 2212, attendants access the teleservices management system 2198 and access the following processors or components in response to such consumer inquiries: (i) account lookup 2200; (ii) call management 2202; (iii) fax management 2204; (iv) incident tracking 2206; (v) e-mail management 2208; and (vi) web site interface 2198. In addition, the teleservices center 1404 enables the call center attendants to record, track, and report on problem within the network 1022.

The teleservices center 1404 enables the system 1010 to provide the best resources for handling consumer inquiries. This includes providing a live agent, an interactive voice response system, an automated e-mail system, or any combinations of these technologies to effectively service the consumer. Whether the contact comes via phone, web, e-mail, fax, in person or through other channels, the teleservices 1404 center routes the consumer to the person, system, process or component to best handle their inquiry in a consistent and thorough manner.

Preferred Embodiment of the Order Management System

One preferred embodiment of the order management system is illustrated in Fig. 50. The order management system, generally designated 2276, comprises all the processes and system components of the system 1010 for receiving consumer orders, providing the desired products, services, entertainment, programming and information, and ensuring that the consumer is well served and informed. This system 2276: (i) implements consumer orders; (ii) receives acknowledgements of those orders; (iii) receives fulfillment management reports; (iv) distributes sub-orders to associated merchants; (v) tracks shipping status of each sub-order; (vi) processes back orders; (vii) processes order cancellations; and (viii) authorizes and processes returns.

The order management system 2276 consists of an order management server ("OMS") 2280 interfacing with an orders database 2278 (located at the mall or some other central location) and the internet 1416. The OMS 2280 interacts and accesses the associated merchants' or partners order management and fulfillment systems 2282, distributing suborders to the selected merchants as required by the consumer orders.

Internet access is provided to the order management system 2276 via the web site 1159 (using HTTP protocol as is well understood), supporting the consumer's on-line purchases and cancellations, as well as supporting consumer queries regarding their order history and the status of open orders. Mall-based access to the system 2276 is provided primarily though the POS 1434 and local database 2284, which enables the system 1010 to: (i) track the status of orders and shipments; (ii) support and process lay-aways; (iii) support and process back-orders; (iv) support and process consumer returns; and (v) implement a gift registry. The mall POS 1434 generates a stock shipping request in a local order management system. A record of

the transaction is cached locally in the local order management system and forwarded to the central order management database 2278. If the network 1022 is unavailable, transactions are processed and cached locally until the connection with the network 1022 is restored.

5

Preferred Embodiment of the Multi-tier System Architecture

The system 1010 preferably supports tens of thousands of users. The architecture of one preferred embodiment of a multi-server system architecture that is both vertically and horizontal scalable is illustrated in Fig. 51.

10 It should be appreciated that as more consumers, malls and partners join the system 1010, the system 1010 will grow. Therefore, it is preferred that the system 1010 be scalable. The system 1010 is vertically scalable as the processing power of each server can be increased by adding processors, memory, and/or input/output (I/O) capability; and horizontally scalable, as the power of the system 1010 can be 15 increased by adding more servers to support specific services (e.g., mail, chat). Using multiple servers also enhances system reliability, reducing the number of failures. Additionally, adding servers increases the system redundancy. If a fault should occur in one server, only a portion of the system 1010 fails so that only a portion of the active consumers lose service.

20 Therefore, a multi-server system is contemplated and preferred. One embodiment of the multi-tiered system is illustrated in Fig. 51. In this embodiment the system 1010 is divided into four logical service domains (i.e., external, services, storage, and management domains 2301, 2319, 2318 and 2320 respectively). These four domains are serviced by four networks (the external, service, data storage and 25 management networks 2298, 2311, 2308 and 2309, respectively).

The four networks interface with the internet 1416 (through a router 2298) or the network 1022 (through a router 2286). The external network 2298 enables consumers to access the services of the external domain 2301. The external domain 2301 provides: (i) access to the DNS 2302; (ii) support for a streaming video server 2300; (iii) access to the e-commerce service 2306; and (iv) provides consumers authentication 2304.

The service network 2311 provides access to the services domain 2319. The service domain 2319 provides the various services offered by the system 1010 like e-mail, chat, websites, etc. The service network 2311 includes a load balancing device 2290 the interfaces with the external network 2298. The load balancing device 2290 distributes the load across the various servers that are part of the service domain 2319, providing an even load distribution, and service and support redundancy. Consumer requests for e-mail, web, chat and registration services are distributed by the external network 2298 to the load balancing device 2290. The service network 2311 interaction with the load balancing device 2290 enables the consumers' requests (sent via the internet 1416 or through the digital stores 1064) to reach the servers in the services domain 2319 (i.e., mail, chat, web and registration servers 2292, 2294, 2296 and 1534, respectively).

The data storage network 2308 interfaces with the external network 2298 and provides access to the storage domain 2318. The data storage domain 2318 stores the information collected and used by the other domains. The data storage network 2308 enables the various servers in the services and external domains 2319 and 2301 respectively to access the databases in the storage domain 2318, including the message store mail, content, applications and registration databases 2310, 2312, 2314 and 2316 respectively. As the system 1010 grows, the data transfer volume

between the services domain servers and the storage domain servers will increase. It should be appreciated that this part of the network infrastructure is designed to encompass future growth.

The management network 2309 interconnects the management and backup services 2322 and 2324 of the management network 2320 with other segments of the network 1022. The management domain 2320 manages the other domains, services, processes, etc. The management network 2309 enables the system management personnel to obtain system performance information and provides centralized administration of the servers and other elements of the network 1022.

Preferred Embodiment of the Personalization and Affiliation Systems

A schematic diagram of the architecture of one preferred embodiment of the personalization application system 2330 is illustrated in Fig. 52. The architecture of the personalization system 2330 is similar to the architecture of the store content presentation system 2087 illustrated in Fig. 43. The personalization system 2330 reveals a content distribution server 2334 interfacing and interacting with the content database 1014. The personalization system 2330 provides target content customized to each consumer, based on consumer information and preferences including both the consumer's implicit and explicit consumer behavior. The content distribution server 2334 provides content production, content creation, template construction and work flow to the network 1400.

Preferred Embodiment of the Affiliate Shopping Model

Turning to Fig. 53 the architecture of one preferred embodiment of an affiliate shopping model is illustrated. As discussed, the system 1010 offers goods and

services of the partners 2342 through the network 1400 and the internet 1416. One goal of the system 1010 is to provide a mall 2338, offering the members/consumers with a choice of other aggregators' goods and services on the web page 2340. The consumers 2336 access the mall 2338 and the web page 2349 and interact with each other and the partners 2342. The system 1010 considers the members/consumers' 2336 purchase activity a single transaction, that is, the system 1010 requires that the members login, provide a password, and provide credit information only once. The members 2336 complete their shopping using a single keystroke. The partners 2342 ship the purchased items to the members 2336 using their own purchase fulfillment procedures and are compensated individually.

Preferred Embodiment of the Marketing Support

One preferred configuration of a marketing support system is illustrated in Fig. 54. The marketing support system comprises all the processes and system components required to market the network 1022 to the consumers and potential partners. This system provides price management and pricing tables to the consumer as well as providing advertisement and publicity management to the partners. The marketing support system enables consumers to access the system 1010 and select products and services from the catalog 1582, using the mall POS and iPODS 2354 or the web site 1159. Selecting the products and services includes accessing the partners inventories 2356 using the internet 1416.

The system 1010 enables the consumers to search for a product or service using various attributes. That is the system 1010 enables the system 1010 to search for a product by artist, title, the production, label, etc. The system also enables the

consumer to display the attributes of several products offered through the network and compare them.

The system 1010 provides the partners profiling and targeted content management using the personalization and registration server 1446 and affinity server 1534. The system 1010 stores information about the consumer on the member's database 2350. Using the profiling and targeted content management system, the partners can provide customer-targeted marketing displays on the store lumens 1062. The products, prices, displays and merchandising of special offers can be tailored to individual customers.

A preferred embodiment of the infrastructure control system 2358 (also referred to as enterprise management) is illustrated in Fig. 55. The infrastructure control system 2358 monitors the communications between the various distribution channels and the NOC 1400. The system 2358 enables technicians 2362 and 2354 to access mall network elements 2360 to monitor the communications between the distribution channels and the NOC 1400, and address any problems.

Advantages

Referring now to Fig. 50, consumers access the integration system 10 through the multiple distribution channels including the flagship malls 24 and the peripheral malls 26. Outside these physical malls, the multi-channel distribution system affects the consumers through distribution channels such as television, wireless communication, radios, mail and magazines. The consumers are also able to access and be part of the events in the flagship malls and peripheral malls through the Internet or the electronic mall 28. The affinity system and the availability of personal agents or shoppers create multiple interconnections between the electronic mall and

the flagship and peripheral malls. These messages and programs influence consumers on a regular basis and encourage consumers to visit the physical malls. While inside the flagship malls or the peripheral malls, the consumers attend movies or other entertainment and events, eat at restaurants, shop at the stores and visit the digital stores. The consumer is rewarded for these activities by the affinity system. The mall monitors broadcast events from other locations and entertains the consumers as if the consumers were in those locations where the events being broadcast are occurring. The consumer may also access the electronic mall in the physical malls, and thereby simultaneously be in the physical and electronic malls. By accessing the flagship malls 24 through the electronic mall 28 while in the peripheral mall 26, the consumer may be in all three malls simultaneously. This seamless integration of the flagship malls, peripheral malls and electronic mall creates an interesting, exciting and continuously changing shopping experience to draw consumers back to the malls in the United States and to cause consumers to spend longer periods of time in these malls.

It should also be appreciated that the integration system could be used to provide individual stores in the physical malls with the broadband content and data communications to further integrate the physical malls.

In addition to the advantages described above, the implementation of the present invention will provide many other advantages. In particular, the integration system: (i) incorporates brand messages in the content which reaches consumers who are likely to buy specified products, as close to the point of purchase as possible; (ii) improves the value and cost effectiveness of content by reducing production costs and increasing the useful life of the content across multiple distribution channels; (iii) increases content exhibition revenue by improving the effectiveness of marketing

through better targeting of messages to consumers; (iv) produces a consumer information database and uses the database to establish personalized relationships with consumers; (v) provides an effective means of staying abreast of the latest consumer trends and incorporating those trends in product and brand messages; (vi) employs numerous technologies to reach consumers without expensive marketing programs; (vii) reaches consumers anywhere in the world twenty-four hours-a-day, seven days-a-week; (viii) integrates existing physical and electronic infrastructure; (ix) aggregates retailers for the production of substantial volumes of high quality programming; (x) establishes an Internet hub for retail programming and shopping; (xi) places physical malls onto the electronic mall or the Internet; (xii) creates a platform for seasonal or temporary product lines by inserting them into the physical and electronic malls; (xiii) provides a direct distribution channel for producers, directors and independent movie productions; (xiv) provides a system to bring celebrities directly to consumers; (xv) provides a physical location to debut and sell Internet products and ideas; (xvi) provides a product laboratory for brand companies to test and market their latest products; (xvii) satisfies the demand for quality content including brand messages and reduces the costs associated with increasing retail programming to near continuous quantities; (xviii) includes a seamlessly integrated multi-channel marketing multi-directional retailing system; (xix) provides mall owners an opportunity to use new technology to improve the performance of their physical assets by linking consumers to both the physical and electronic malls; (xx) enables brand companies and manufactures to use physical and electronic malls to supplement and enhance their traditional distribution processing; (xxi) allows retailers to provide physical and electronic product information to consumers; (xxii) enables retailers to target consumers; (xxiii) enables electronic mall retailers to create greater

awareness and to reach more consumers; (xxiv) improves the conventional e-commerce business models; and (xxv) builds a community around the malls.

It should be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention, and it should be understood that this application is to be limited only by the scope of the appended claims.

CLAIMS

The invention is hereby claimed as follows:

1. An apparatus for displaying a plurality of products in a physical and virtual environment to at least one user, the apparatus comprising:

a structure having a floor, a ceiling and a plurality of walls connected to the floor and ceiling, one of the walls including an entrance to the structure;

means for displaying one of said plurality of products;

means adjacent to at least one of said walls for displaying product content related to said product; and

a computer control system adapted to transmit signals containing product content related to said product to the content display means,

whereby the product content changes for different products.

2. The apparatus of Claim 1, which includes means adjacent to a plurality of said walls for displaying product content related to said product to create a temporary environment in the structure relating to said product.

3. The apparatus of Claim 1, wherein the content display means includes a least one screen.

4. The apparatus of Claim 3, wherein the content display means includes at least one video generator adapted to display the product content on said screen.

5. The apparatus of Claim 1, which includes a data network wherein the computer control system transmits the signals to the content display means through the data network.

6. The apparatus of Claim 5, wherein the computer control system includes at least one local controller interacting with the content display means and at least one global controller interacting with the local controller through the data network.

7. The apparatus of Claim 5, which includes at least one internet access device connected to the data network and adapted to enable the user to access additional information regarding the plurality of products displayed in the structure.

8. The apparatus of Claim 5, wherein the walls define an interior area in the structure and an exterior area outside the structure, and the wall having the entrance includes a video wall adapted to display at least one image to the exterior area.

9. The apparatus of Claim 8, wherein the video wall includes a transparent wall adapted to enable a user in the exterior area to view the interior area.

10. The apparatus of Claim 8, wherein the transparent wall is also adapted to enable a user in the interior area to view the exterior area.

11. The apparatus of Claim 10, wherein the video wall includes at least two layers of protective material and display laminate in contact with the layers of protective material, whereby a signal is projected onto the protective material and diffused by the laminate forming an image.

12. The apparatus of Claim 10, wherein said protective material includes manufactured seamed edge glass and the display laminate is a transparent film disposed between and in contact with the layers of glass.

13. The apparatus of Claim 10, which further includes at least one video generator adapted to display content on the transparent wall viewable by a user in the exterior area.

14. The apparatus of Claim 13, which includes a plurality of video generators adapted to display content on the transparent wall.

15. The apparatus of Claim 10, which includes displaying product content on the transparent wall.

16. The apparatus of Claim 13, which includes at least one server interacting with at least the video generator and adapted to communicate recorded video signals to the video generator.

17. The apparatus of Claim 16, wherein the entrance includes means for curtailing a person's view of the interior area of the structure to focus the user's attention on the videowall.

18. The apparatus of Claim 17, wherein the curtailing means includes rounded walls and an inclined floor of sound deadening material.

19. The apparatus of Claim 16, wherein the entrance includes means for identifying the user when the user enters the structure through the entrance.

20. The apparatus of Claim 19, wherein the identifying means includes an identification card scanner.

21. The apparatus of Claim 1, which includes a three dimensional volumetric display device.

22. The apparatus of Claim 1, which includes a plurality of product display areas for simultaneously displaying more than one of said plurality of products.

23. The apparatus of Claim 22, which includes a plurality of lounge areas for creating a community environment within the structure.

24. A display device adapted for displaying product content on a wall of a store, wherein said product content relates to at least one product displayed in said store, the display device comprising:

at least one layer of protective material; and

a display laminate in contact with the protective material;

whereby a signal is projected onto the protective material and diffused by the laminate forming an image.

25. The display device of Claim 24, wherein the display device is transparent.

26. The display device of Claim 25, wherein said protective material includes at least two layers of manufactured seamed edge glass.

27. The display device of Claim 26, wherein said display laminate is a transparent film disposed between and in contact with the layers of glass.

28. A method for displaying a plurality of products in a physical and virtual environment, said method comprising the step of:

displaying one of the products;

transmitting signals containing product content to a content display device adjacent to the product;

displaying the product content related to said product; and

changing the product content for different products.

29. The method of Claim 28, which includes displaying recorded product content related to said product.

30. The method of Claim 28, which includes displaying live product content related to said product.

31. The method of Claim 28, which includes displaying live product content of a location where the product would be used.

32. A system for seamlessly integrating multiple distribution channels in physical and electronic malls, the system comprising:

a distribution and communication network interacting with said physical and electronic malls;

a global control system interacting with the distribution and communication network; and

at least one local computer control system interacting with at least said physical malls and the global control system through the distribution and communication network,

whereby the global control system and the local computer control system control the distribution of content to the physical and electronic malls through the multiple distribution channels.

33. A system for increasing consumer use of a physical mall, said system comprising:

a global computer control system;

a content processing system communicating with said global computer control system;

a content storage system communicating with said global computer control system;

a communication network;

a local computer control system adapted to communicate with said global computer control system through said communication network; and a

a plurality of content distribution channels in said physical mall connected to said communication network.

34. A method for processing content, said method comprising the steps of:

obtaining said content;

transmitting said content to a global computer control system;

storing said content in at least one storage system;

accessing said stored content through the global computer control system;

re-purposing said content for distribution through a plurality of distribution channels;

transmitting said re-purposed content to the global computer control system; and

storing said re-purposed content in said at least one storage system.

35. The method of Claim 34, wherein the storage system includes analog and digital storage systems.

36. The method of Claim 35, which includes indexing the content and indexing the re-purposed content.

37. The method of Claim 34, which includes the global computer control system distributing the re-purposed content in real time.

38. The method of Claim 34, wherein the content is re-purposed for distribution through an intranet.

39. A system for integrating retailing and entertainment networks, the system comprising:

a controlled distribution network simultaneously accessible by a plurality of users; and

a plurality of distribution channels simultaneously interacting with the controlled distribution network to distribute a plurality of products, services, entertainment, programming and information;

whereby the users access the controlled distribution network to obtain the products, services, entertainment, programming and information.

40. The system of Claim 39, which includes a global control system interacting with at least the controlled distribution network, wherein the global control system coordinates and controls the processing, transmission, reception, re-purposing, storage and distribution of the products, services, entertainment, programming and information.

41. The system of Claim 40, which includes at least a local control system interacting with at least the distribution channel and the controlled distribution network, whereby the local control system controls the local processing and distribution of the products, services, entertainment, programming and information through the distribution channel.

42. The system of Claim 41, wherein the local control system interacts with the global control system through the controlled distribution network.

43. The system of Claim 42, wherein the global control system distributes the products, services, entertainment, programming and information through the controlled distribution network in real-time.

43. A method for integrating multiple distribution channels using a data network, the method comprising:

networking the distribution channels;

displaying at least one of a plurality of products, services, entertainment, programming and information in a digital store; and

accessing the networked distribution channels and displaying said products, services, entertainment, programming or information through one of the distribution channels.

44. A system for seamlessly integrating multiple new and existing product, service and information distribution channels, the system comprising:

a global control system;

a distribution and communication network interacting with the global control system; and

at least one local control system interacting with said multiple new and existing distribution channels and the global control system through the distribution and communication network;

whereby the global control system, the local computer control system and the distribution and communication network create a plurality of integration points between said multiple new and existing distribution channels.

45. The system of Claim 44, which includes a plurality of local computer control systems.

46. A system for seamlessly integrating multiple product, service and information distribution channels, the system comprising:

a content storage system;

a global computer control system interacting with said content storage system;

a consumer data gathering and distribution system interacting with the global computer control system;

a content production and processing system interacting with the global computer control system;

a computer controlled distribution and communication network interacting with the global control system; and

a plurality of local computer control systems interacting with said multiple distribution channels and the global control system through the computer controlled distribution and communication network,

whereby the global computer control system and the local computer control system control the distribution of content through the product, service and information distribution channels.

47. The system of Claim 46, wherein said multiple distribution channels includes a physical mall.

48. The system of Claim 47, wherein the physical mall includes a flagship mall.

49. The system of Claim 48, wherein the virtual mall includes an electronic mall.

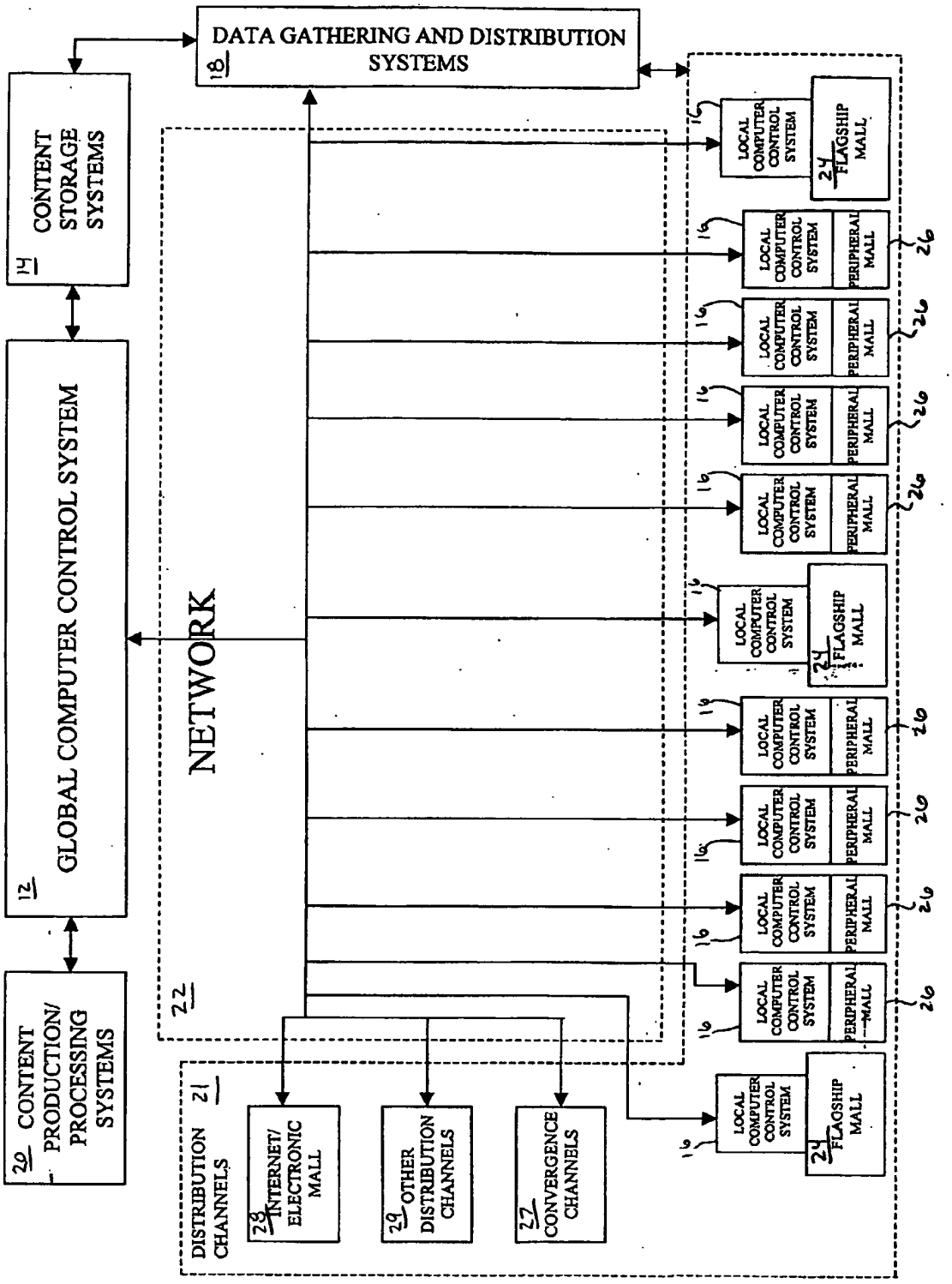

DATA GATHERING AND DISTRIBUTION SYSTEMS
18
CONTENT STORAGE SYSTEMS
14
GLOBAL COMPUTER CONTROL SYSTEM
12
CONTENT PRODUCTION/ PROCESSING SYSTEMS
20
NETWORK
22
DISTRIBUTION CHANNELS
21
INTERNET/ ELECTRONIC MALL
28
OTHER DISTRIBUTION CHANNELS
29
CONVERGENCE CHANNELS
27
LOCAL COMPUTER CONTROL SYSTEM
16
FLAGSHIP MALL
24
PERIPHERAL MALL
26

FIG. 1

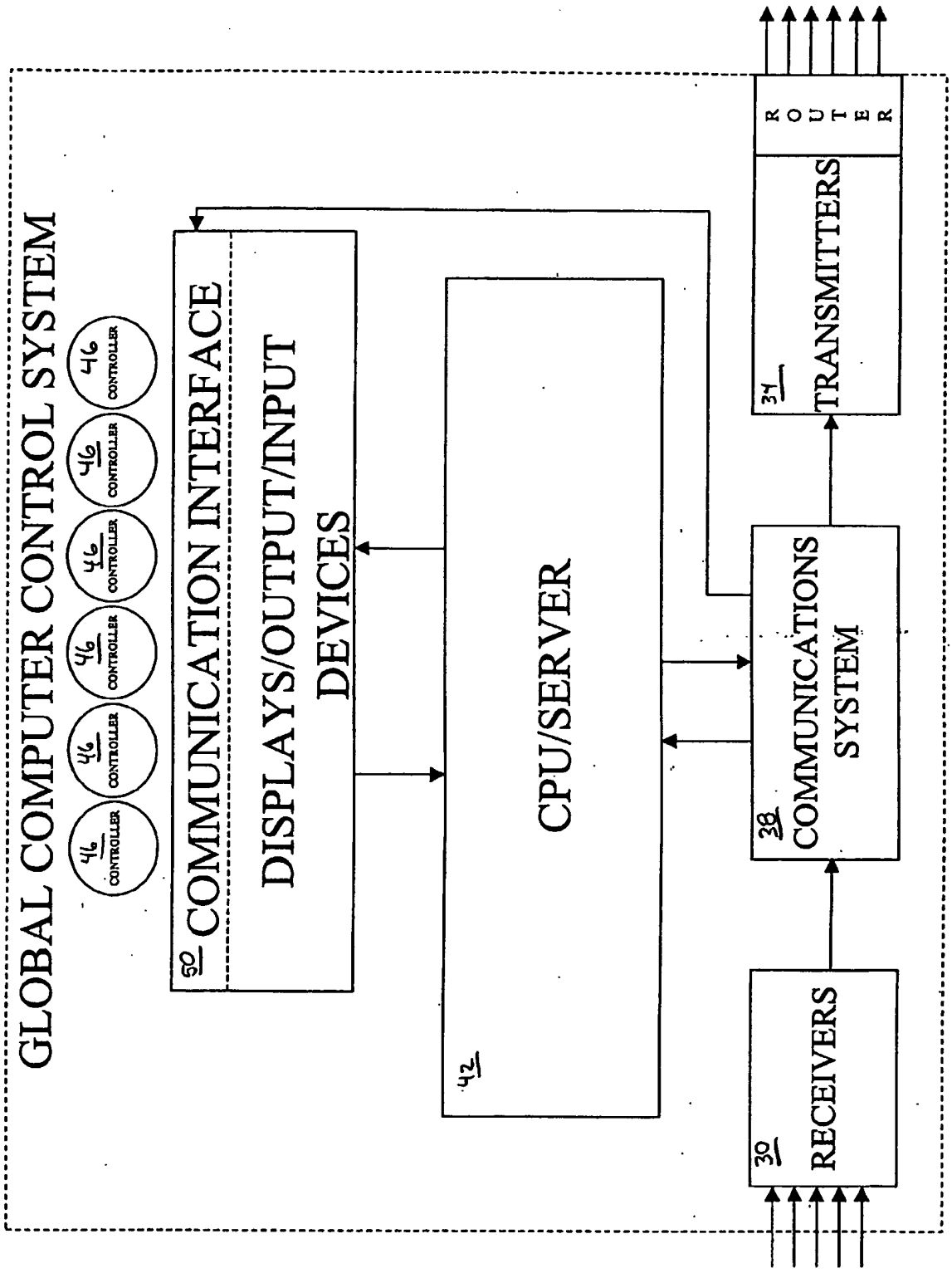

GLOBAL COMPUTER CONTROL SYSTEM
46 CONTROLLER
46 CONTROLLER
46 CONTROLLER
46 CONTROLLER
46 CONTROLLER
46 CONTROLLER
50 COMMUNICATION INTERFACE
DISPLAYS/OUTPUT/INPUT DEVICES
42 CPU/SERVER
38 COMMUNICATIONS SYSTEM
34 TRANSMITTERS
ROUTER
30 RECEIVERS

FIG. 2

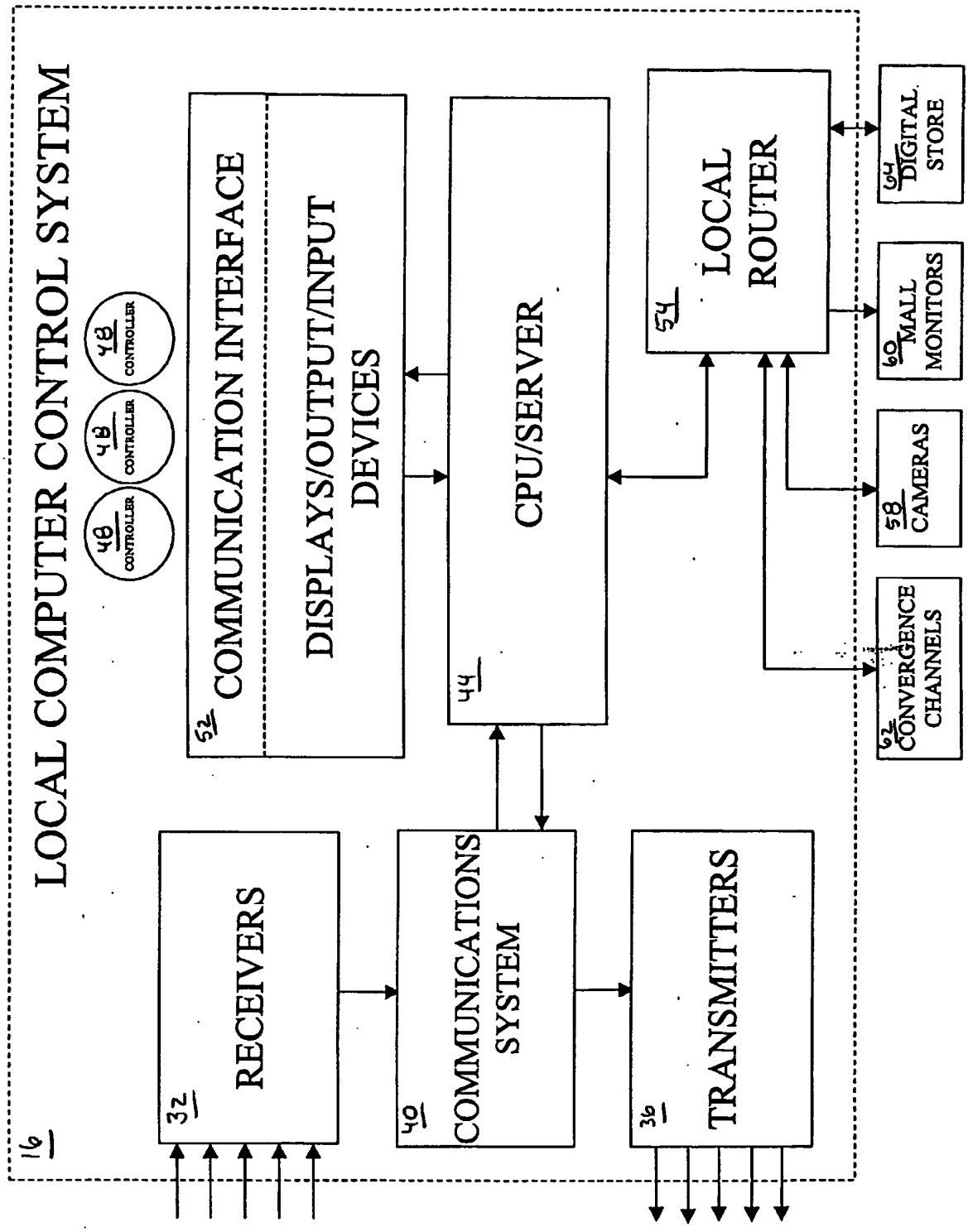

LOCAL COMPUTER CONTROL SYSTEM
16
RECEIVERS
32
COMMUNICATIONS SYSTEM
40
TRANSMITTERS
36
COMMUNICATION INTERFACE
52
DISPLAYS/OUTPUT/INPUT DEVICES
CPU/SERVER
44
LOCAL ROUTER
54
48 CONTROLLER
48 CONTROLLER
48 CONTROLLER
64 DIGITAL STORE
60 MALL MONITORS
58 CAMERAS
62 CONVERGENCE CHANNELS

FIG. 3

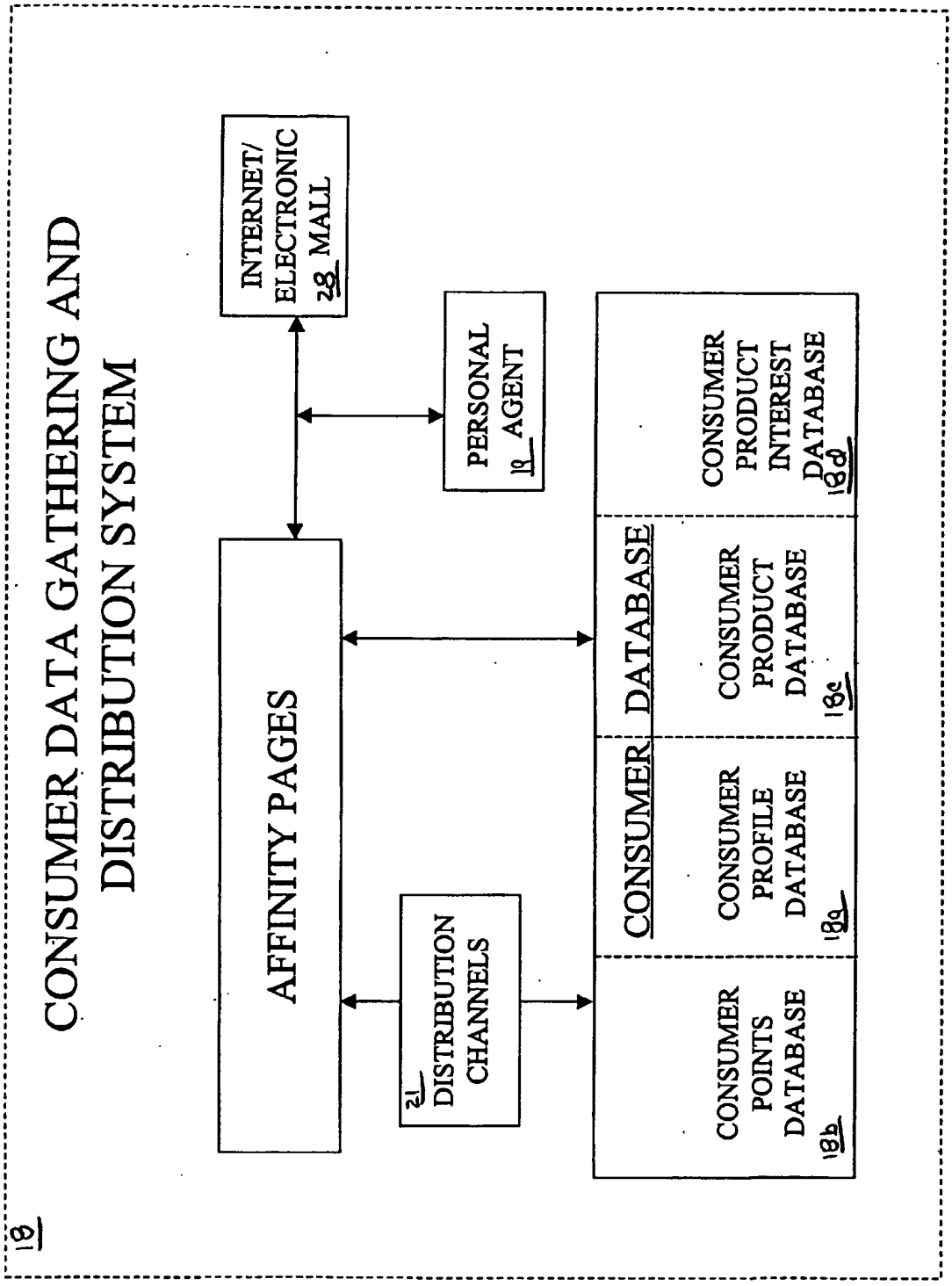

CONSUMER DATA GATHERING AND DISTRIBUTION SYSTEM
10
INTERNET/ ELECTRONIC 28 MALL
PERSONAL 12 AGENT
AFFINITY PAGES
21 DISTRIBUTION CHANNELS
CONSUMER DATABASE
CONSUMER POINTS DATABASE 18b
CONSUMER PROFILE DATABASE 18a
CONSUMER PRODUCT DATABASE 18c
CONSUMER PRODUCT INTEREST DATABASE 18d

FIG. 4

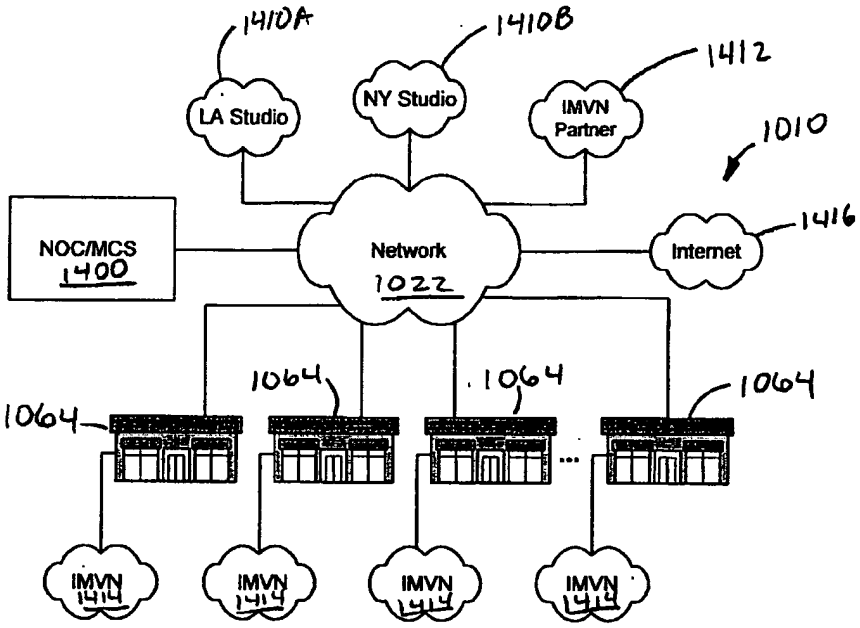

1410A
1410B
1412
LA Studio
NY Studio
IMVN Partner
1010
NOC/MCS 1400
Network 1022
Internet
1416
1064
1064
1064
1064
IMVN 1414
IMVN 1414
IMVN 1414
IMVN 1414

Fig. 5

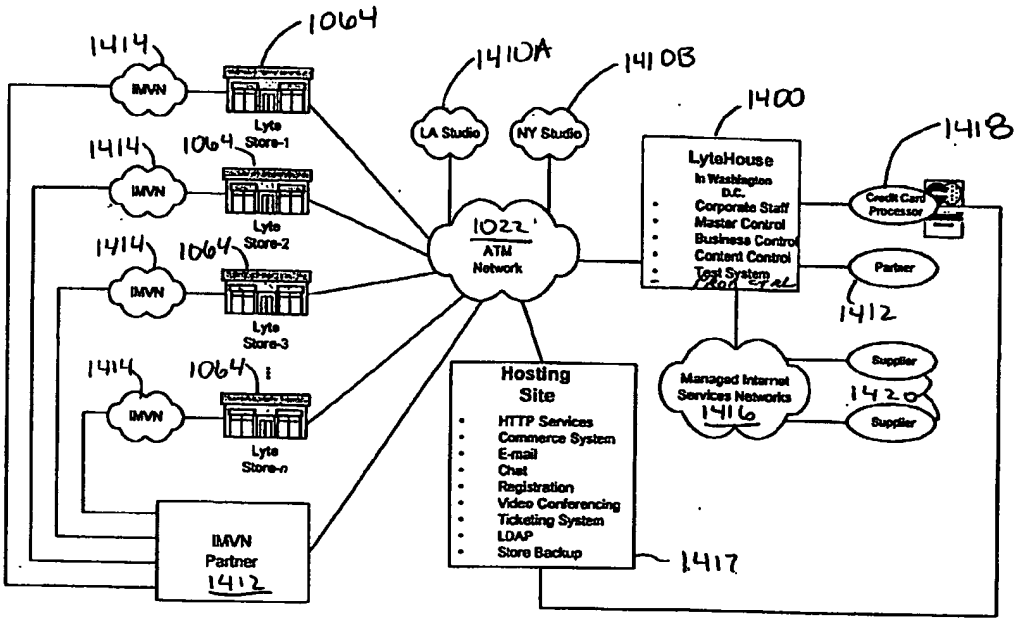

1064
1414
1410A
1410B
1400
1418
IMVN
Lyte Store-1
LA Studio
NY Studio
LyteHouse
In Washington D.C.
Corporate Staff
Master Control
Business Control
Content Control
Test System
Credit Card Processor
1414
1064
Store-2
1022'
ATM Network
Partner
1412
1414
1064
Store-3
Hosting Site
HTTP Services
Commerce System
E-mail
Chat
Registration
Video Conferencing
Ticketing System
LDAP
Store Backup
Managed Internet Services Networks
1416
Supplier
1420
Supplier
1414
1064
Store-n
IMVN Partner
1412
1417

Fig. 6

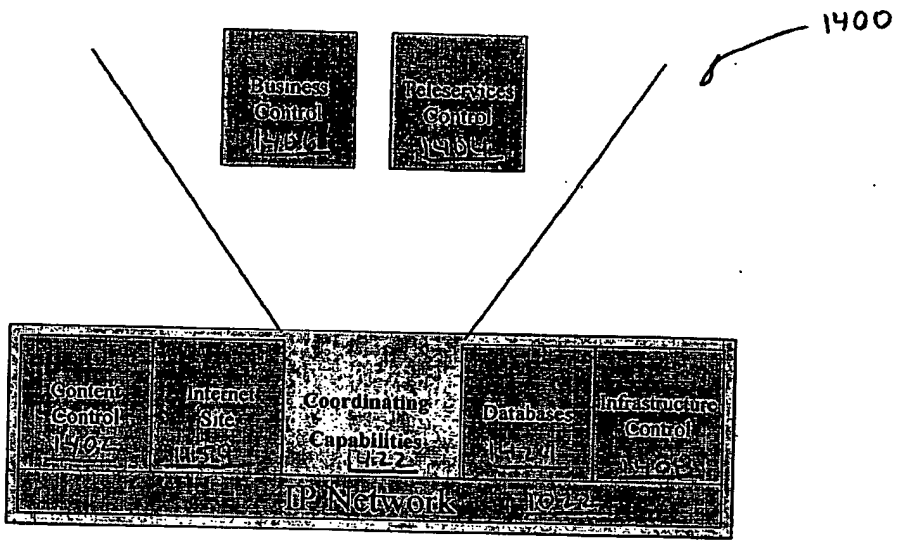

Network Operating Center
1400
Business Control
Teleservices Control
Content Control
Internet Site
Coordinating Capabilities
Databases
Infrastructure Control
IP Network

Fig. 7

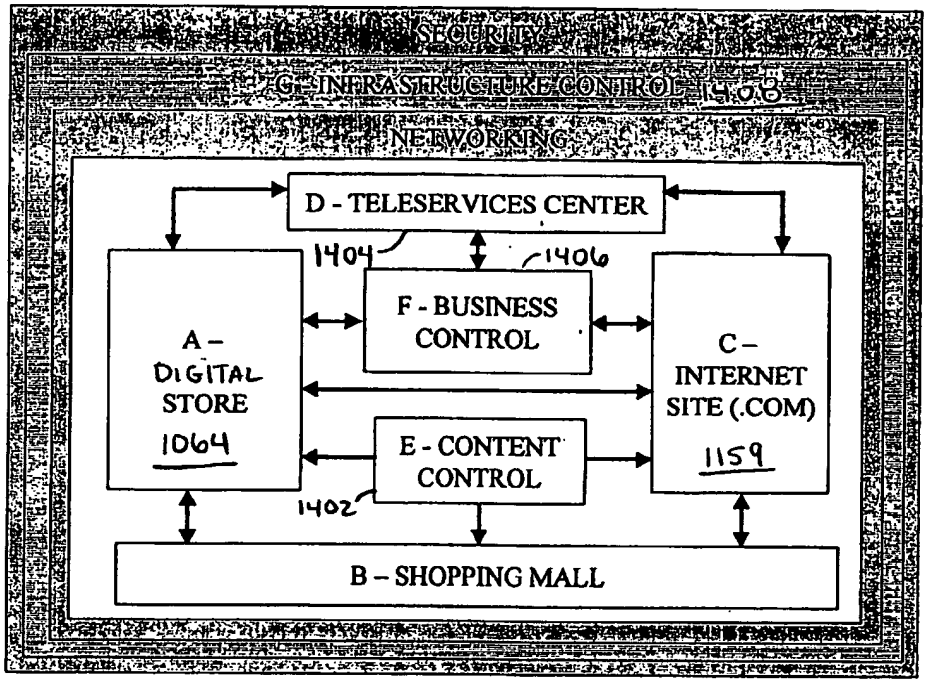

SECURITY
G - INFRASTRUCTURE CONTROL 1408
NETWORKING
D - TELESERVICES CENTER
1404
1406
A – DIGITAL STORE 1064
F - BUSINESS CONTROL
C – INTERNET SITE (.COM) 1159
E - CONTENT CONTROL
1402
B – SHOPPING MALL

Fig. 8

Fig. 9A

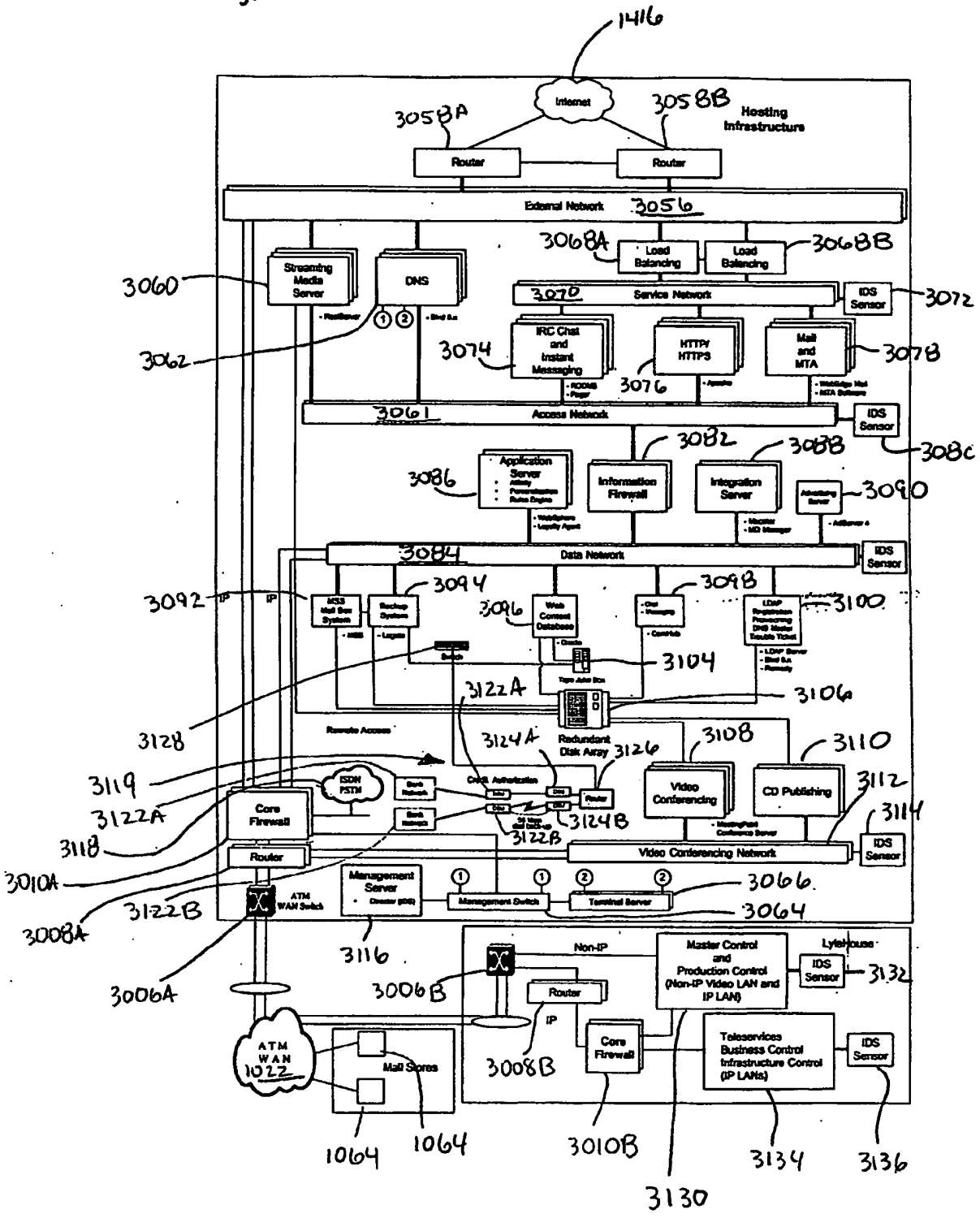
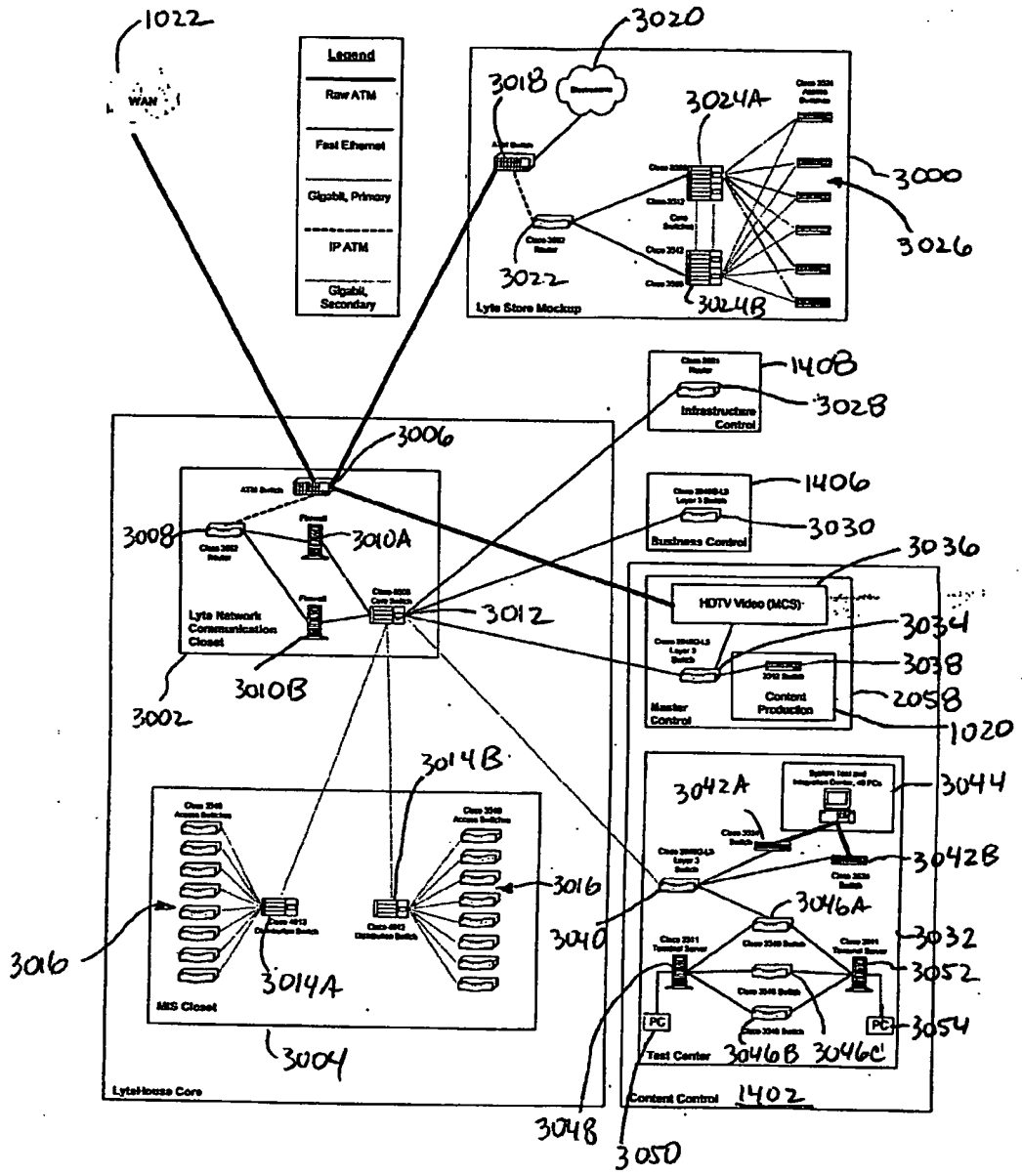

1416
Internet
3058A
3058B
Hosting Infrastructure
Router
Router
External Network
3056
3068A
Load Balancing
Load Balancing
3068B
3060
Streaming Media Server
DNS
3070
Service Network
IDS Sensor
3072
3062
IRC Chat and Instant Messaging
3074
HTTP/ HTTPS
3076
Mail and MTA
3078
3061
Access Network
IDS Sensor
3082
3088
308C
3086
Application Server
Information Firewall
Integration Server
3090
3084
Data Network
IDS Sensor
3092
3094
3096
3098
3100
3104
3122A
3106
3128
3124A
Redundant Disk Array
3126
3108
3110
3119
3122A
Core Firewall
ISDN PSTN
3124B
Video Conferencing
CD Publishing
3112
3114
3118
3122B
Video Conferencing Network
IDS Sensor
3010A
Router
3066
3008A
3122B
ATM WAN Switch
Management Server
Management Switch
Terminal Server
3064
3116
3006A
3006B
Non-IP
Master Control and Production Control (Non-IP Video LAN and IP LAN)
Lyteshouse
IDS Sensor
3132
Router
IP
3008B
Core Firewall
Teleservices Business Control Infrastructure Control (IP LANs)
IDS Sensor
ATM WAN 1022
Mail Stores
1064
1064
3010B
3134
3136
3130

Fig. 9B


1022
WAN
Legend
Raw ATM
Fast Ethernet
Gigabit, Primary
IP ATM
Gigabit, Secondary
3020
3018
3024A
3000
3026
3022
3024B
Lyte Store Mockup
1408
Infrastructure Control
3028
3006
1406
Business Control
3030
3036
3008
3010A
HDTV Video (MCS)
3034
3012
3038
Content Production
2058
Master Control
1020
Lyte Network Communication Closet
3010B
3002
3014B
3042A
3044
3042B
3016
3046A
3040
3032
3052
3014A
3016
MIS Closet
PC
PC
3054
Test Center
3046B
3046C
3004
LyteHouse Core
Content Control
1402
3048
3050

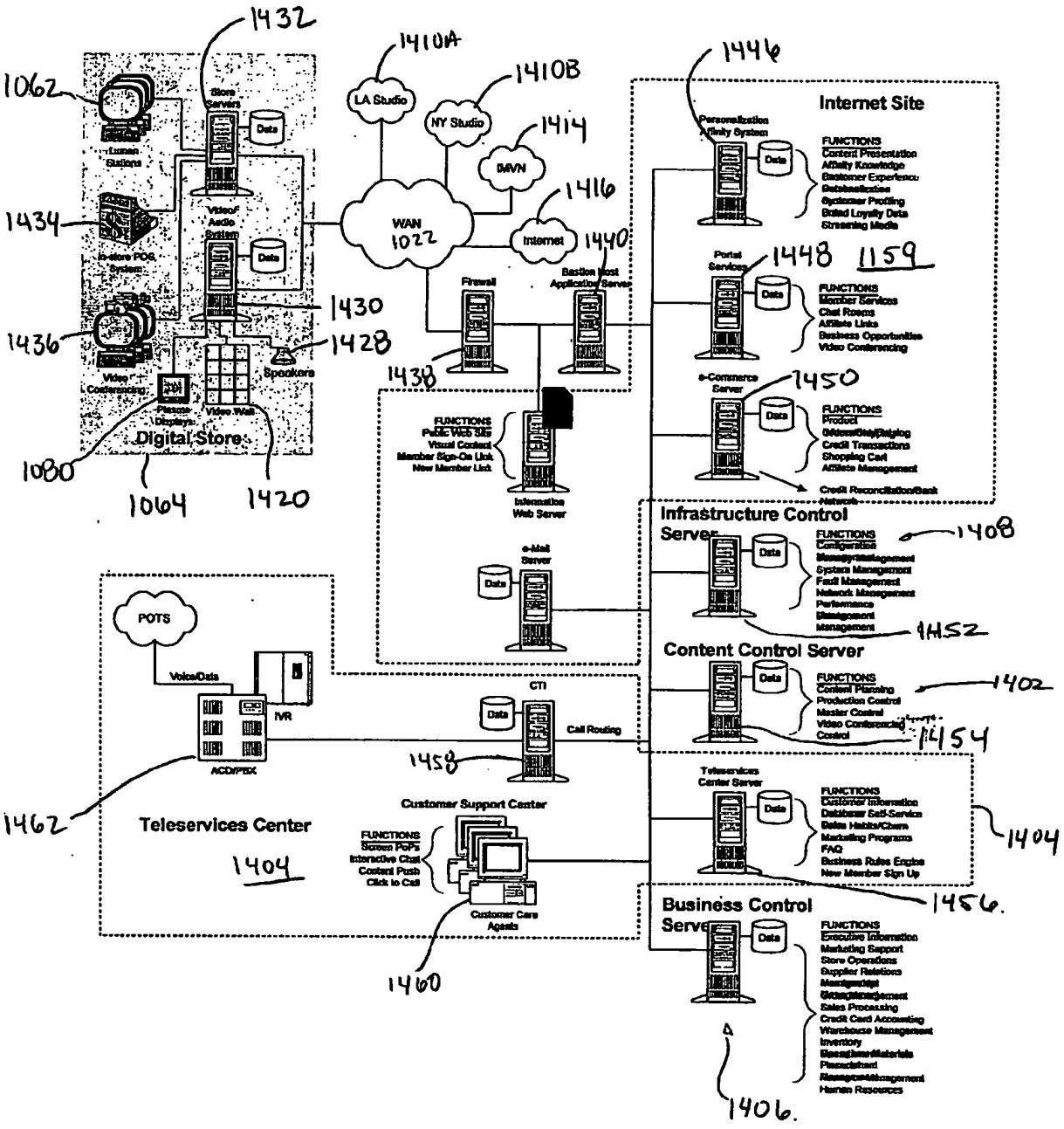

1432
1410A
1410B
1414
1416
1440
1446
1062
1434
1436
1430
1428
1438
1080
1064
1420
1448
1159
1450
1408
1452
1454
1402
1458
1462
1404
1460
1456
1406
Internet Site
Infrastructure Control Server
Content Control Server
Business Control Server
Digital Store
Teleservices Center
Customer Support Center
WAN 1022
LA Studio
NY Studio
IMVN
Internet
Firewall
Bastion Host Application Server
Information Web Server
e-Mail Server
Portal Services
e-Commerce Server
Personalization Affinity System
Store Servers
Video/ Audio Systems
In-store POS System
Video Conferencing
Plasma Displays
Video Wall
Speakers
Human Stations
POTS
Voice/Data
IVR
ACD/PBX
CTI
Call Routing
Teleservices Center Server
Customer Care Agents
FUNCTIONS
Content Presentation
Affinity Knowledge
Customer Experience
Personalization
Customer Profiling
Brand Loyalty Data
Streaming Media
Member Services
Chat Rooms
Affiliate Links
Business Opportunities
Video Conferencing
Product
Credit Transactions
Shopping Cart
Affiliate Management
Credit Reconciliation/Bank
Network
Configuration
Message Management
System Management
Fault Management
Network Management
Performance
Management
Content Planning
Production Control
Master Control
Video Conferencing Control
Customer Information
Database Self-Service
Sales Habits/Charm
Marketing Programs
FAQ
Business Rules Engine
New Member Sign Up
Executive Information
Marketing Support
Store Operations
Supplier Relations
Merchandising
Order Management
Sales Processing
Credit Card Accounting
Warehouse Management
Inventory
Shipping/Raw Materials
Personnel
Management
Human Resources
Public Web Site
Visual Content
Member Sign-On Link
New Member Link
Screen PoPs
Interactive Chat
Content Push
Click to Call

Fig. 10

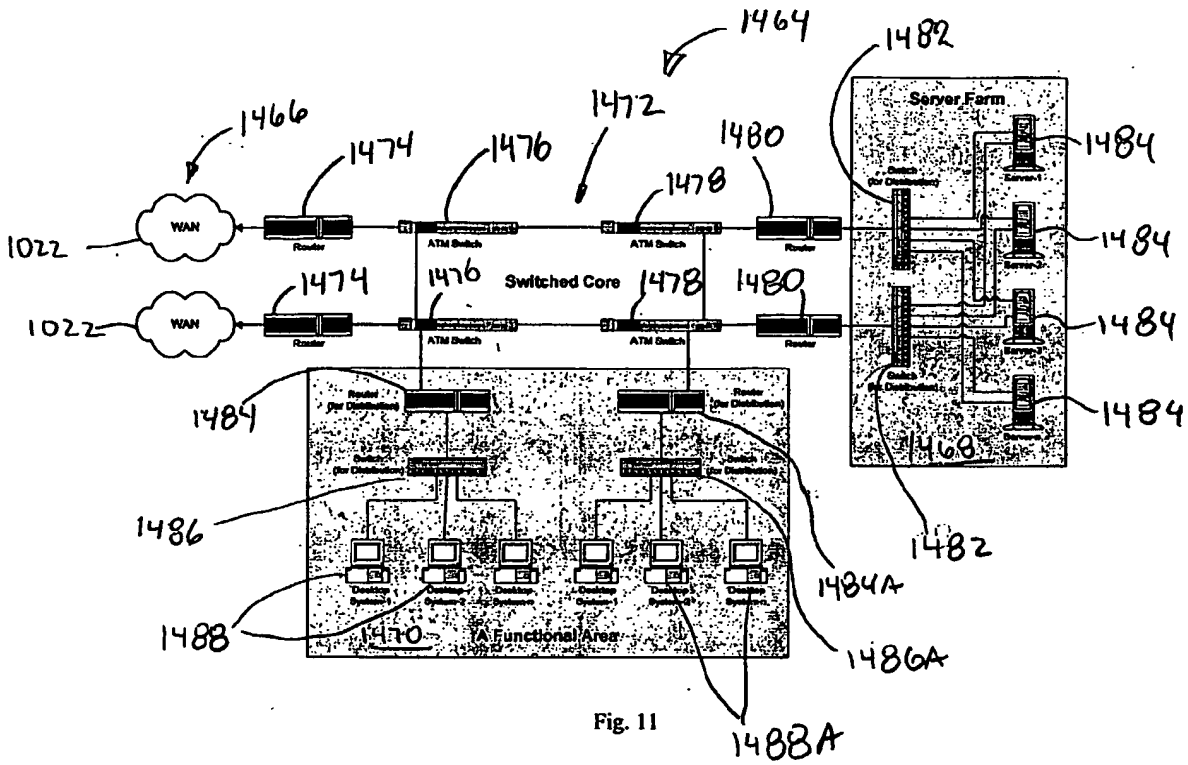

1464
1482
1466
1472
1474
1476
1480
1478
1484
1022
WAN
Server Farm
Switched Core
1468
1486
1484A
1488
1470
TA Functional Area
1486A
1488A

Fig. 11

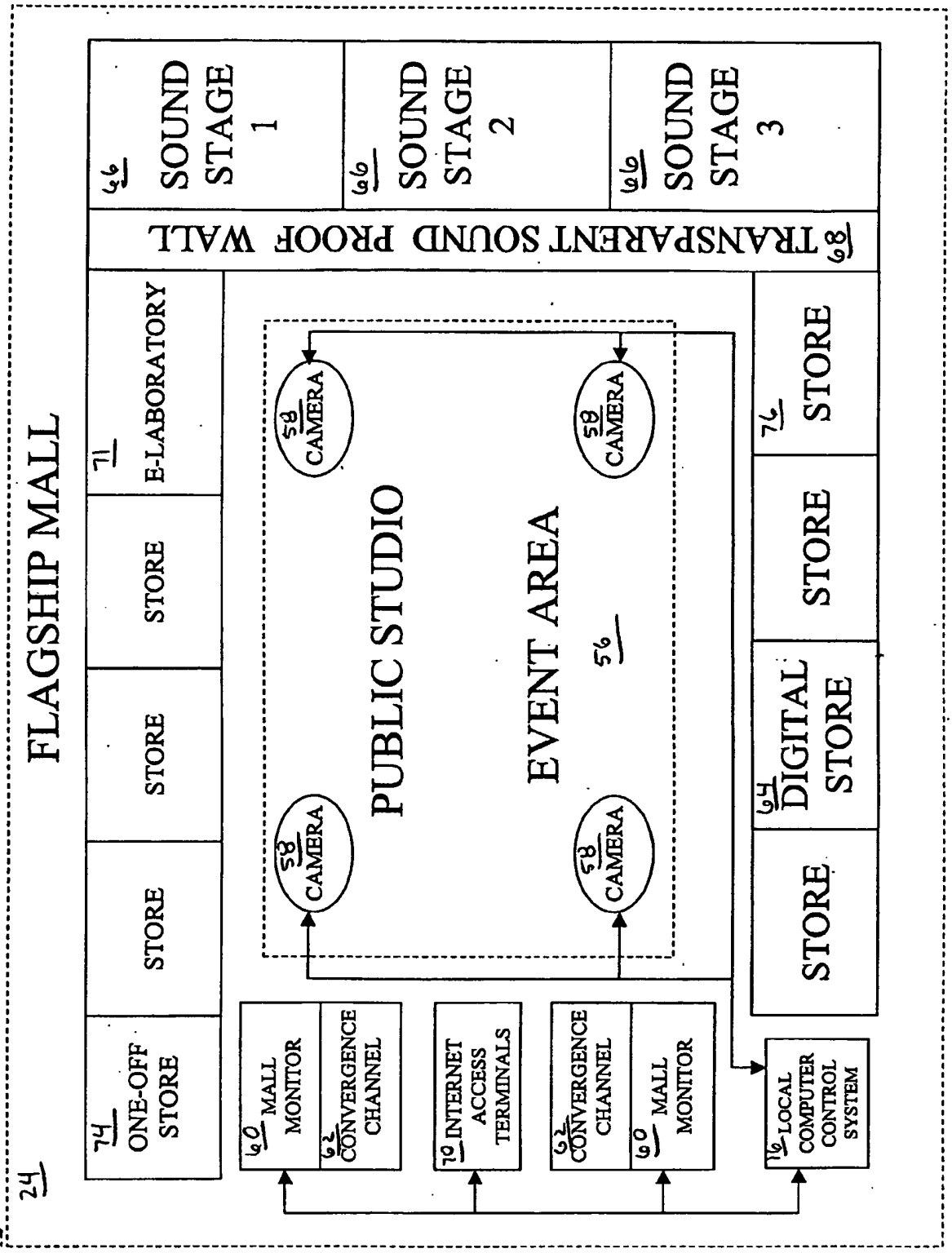

24
FLAGSHIP MALL
46 SOUND STAGE 1
66 SOUND STAGE 2
66 SOUND STAGE 3
68 TRANSPARENT SOUND PROOF WALL
74 ONE-OFF STORE
STORE
STORE
STORE
71 E-LABORATORY
58 CAMERA
58 CAMERA
PUBLIC STUDIO
EVENT AREA
56
58 CAMERA
58 CAMERA
76 STORE
STORE
64 DIGITAL STORE
STORE
60 MALL MONITOR
62 CONVERGENCE CHANNEL
70 INTERNET ACCESS TERMINALS
62 CONVERGENCE CHANNEL
60 MALL MONITOR
76 LOCAL COMPUTER CONTROL SYSTEM

FIG. 12

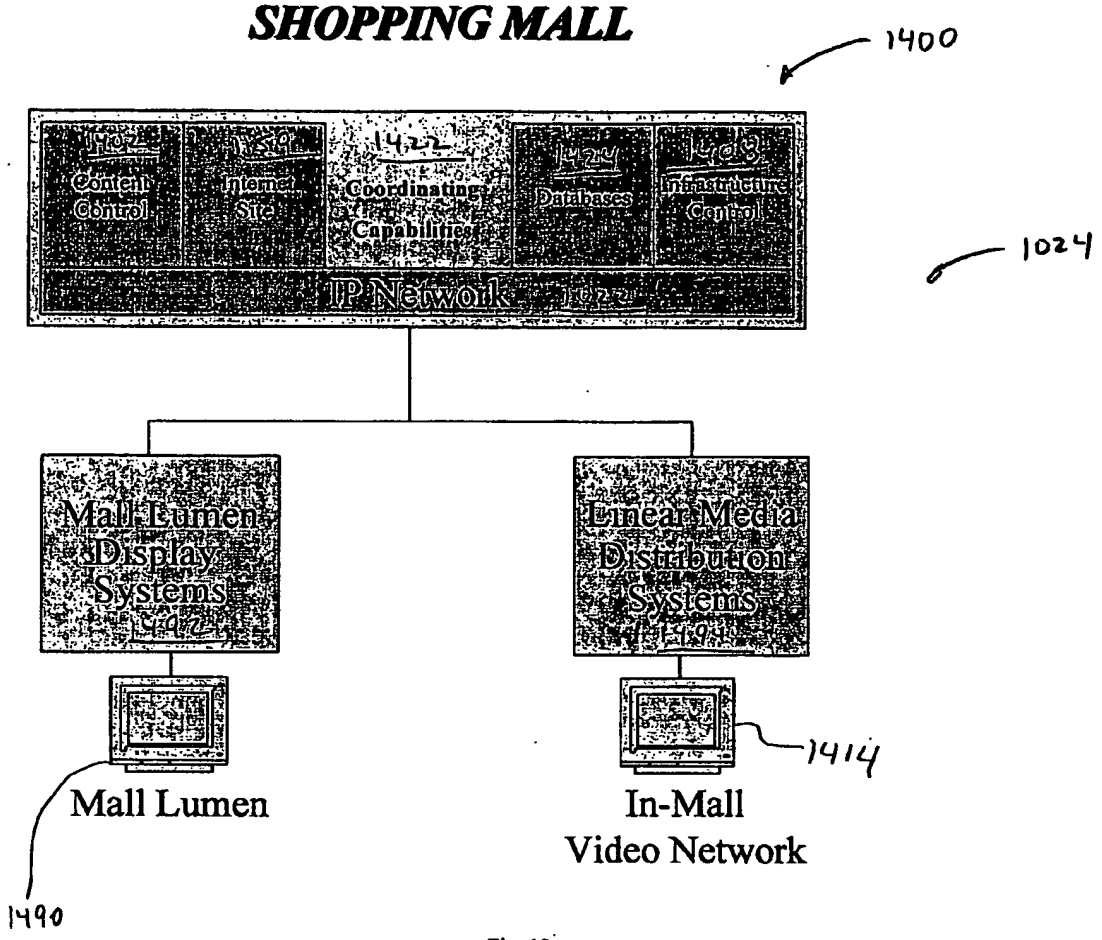

SHOPPING MALL
1400
Content Control
Internet Site
Coordinating Capabilities
Databases
Infrastructure Control
IP Network
1024
Mall Lumen Display Systems
Linear Media Distribution Systems
1414
Mall Lumen
In-Mall Video Network
1490

Fig. 13

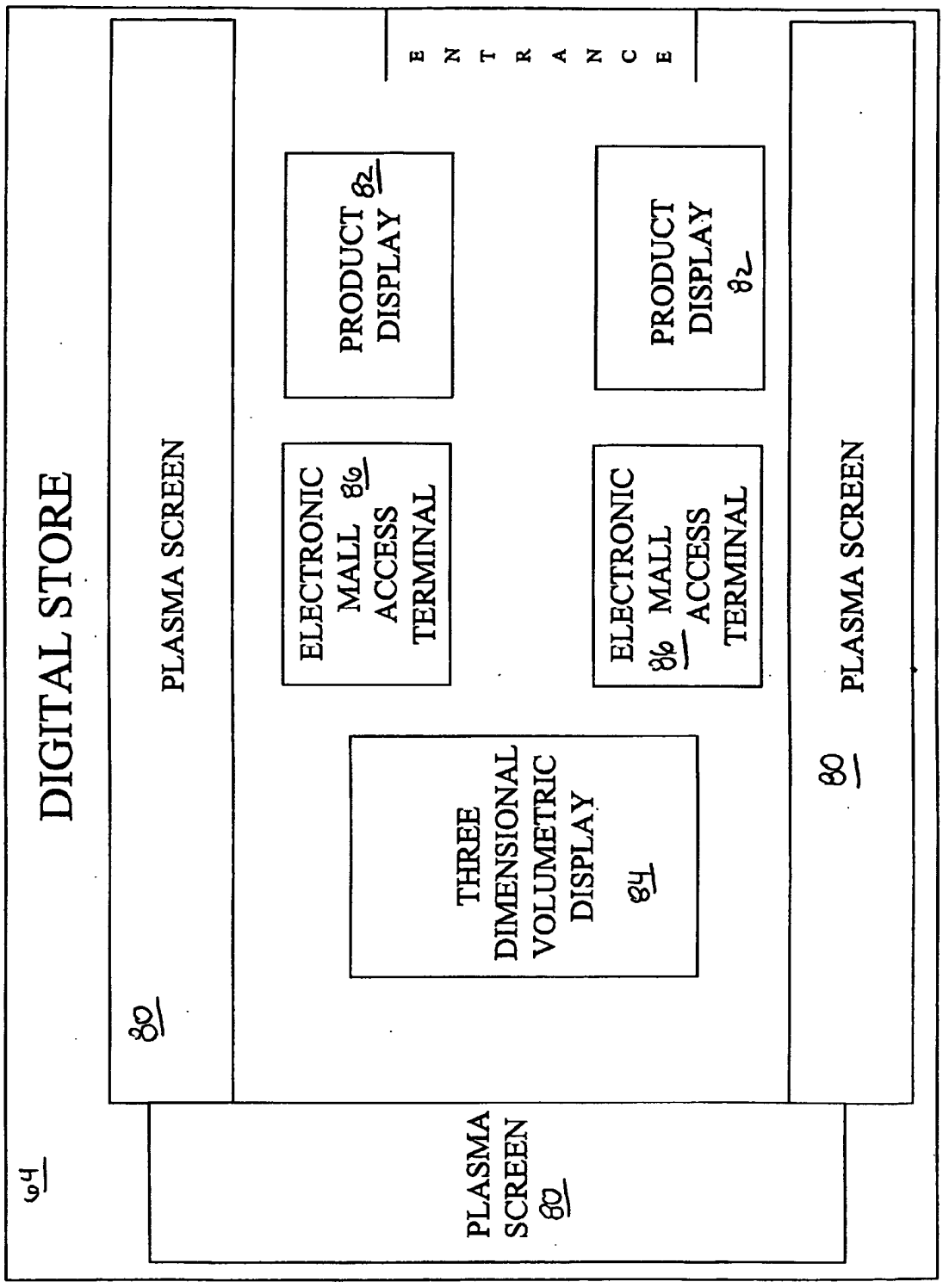

DIGITAL STORE
94
PLASMA SCREEN
80
PLASMA SCREEN
80
PLASMA SCREEN
80
ENTRANCE
PRODUCT DISPLAY 82
PRODUCT DISPLAY 82
ELECTRONIC MALL ACCESS TERMINAL 86
ELECTRONIC MALL ACCESS TERMINAL 86
THREE DIMENSIONAL VOLUMETRIC DISPLAY 84

FIG. 14

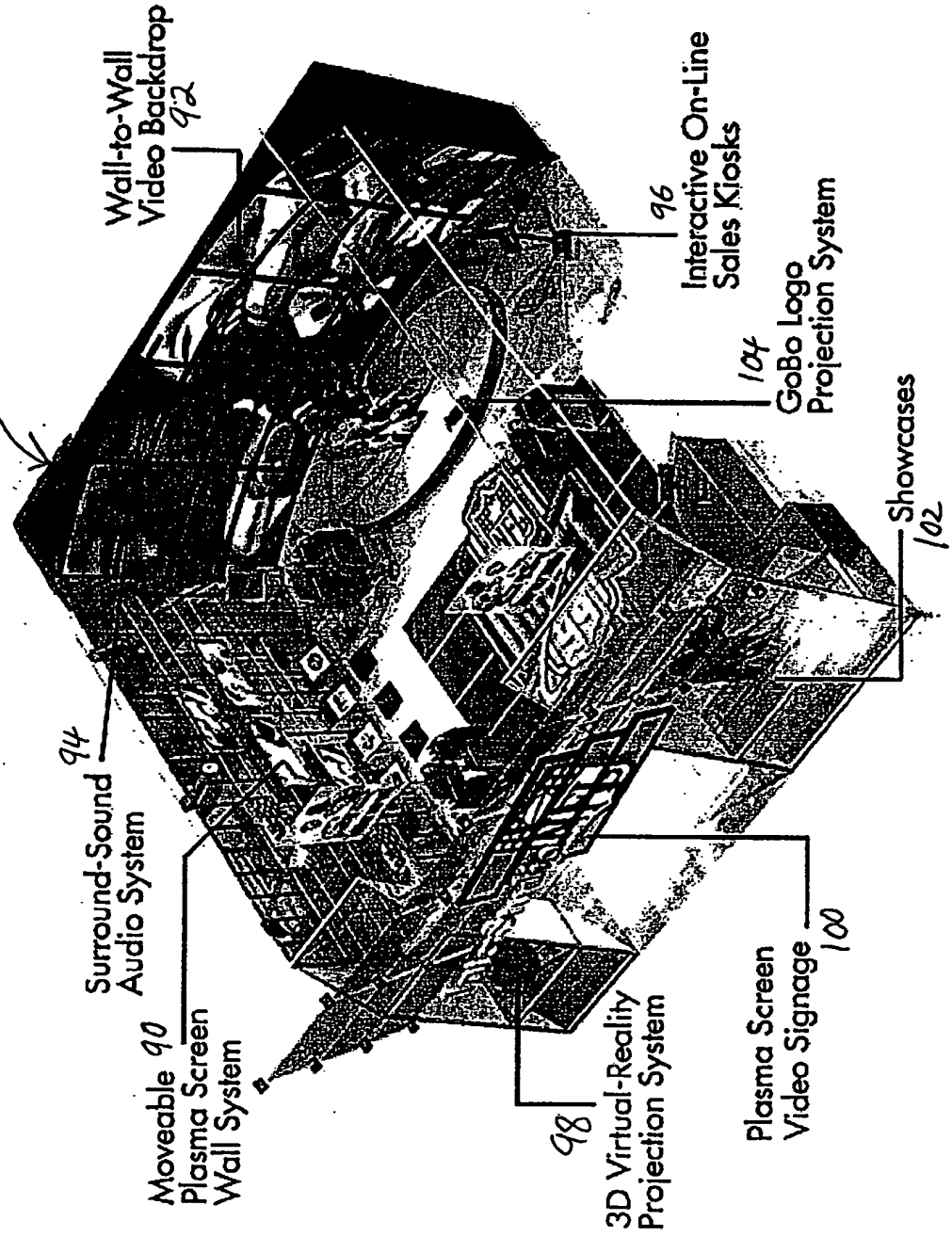

64a
Wall-to-Wall Video Backdrop 92
Interactive On-Line Sales Kiosks 96
GoBo Logo Projection System 104
Showcases 102
Surround-Sound Audio System 94
Moveable Plasma Screen Wall System 90
3D Virtual-Reality Projection System 98
Plasma Screen Video Signage 100

Fig. 15

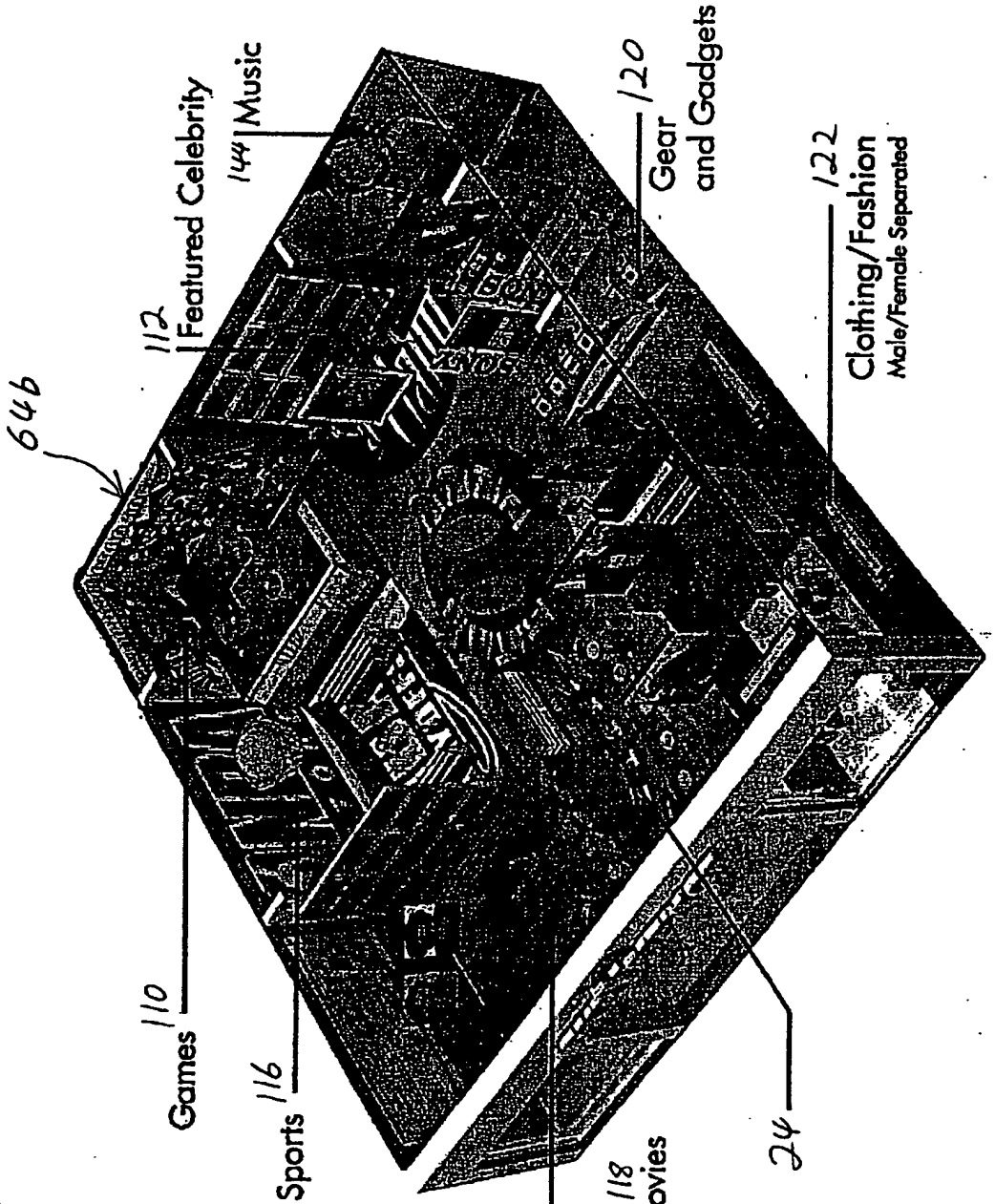

646
112
Featured Celebrity
144
Music
120
Gear
and Gadgets
122
Clothing/Fashion
Male/Female Separated
110
Games
116
Sports
118
Movies
24

Fig. 16.

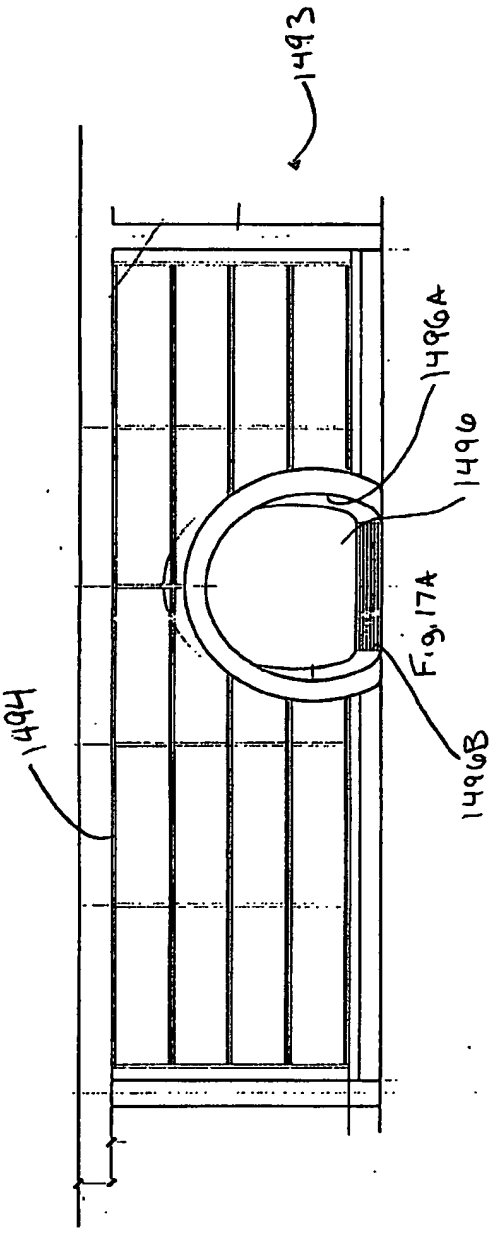


Fig. 17A

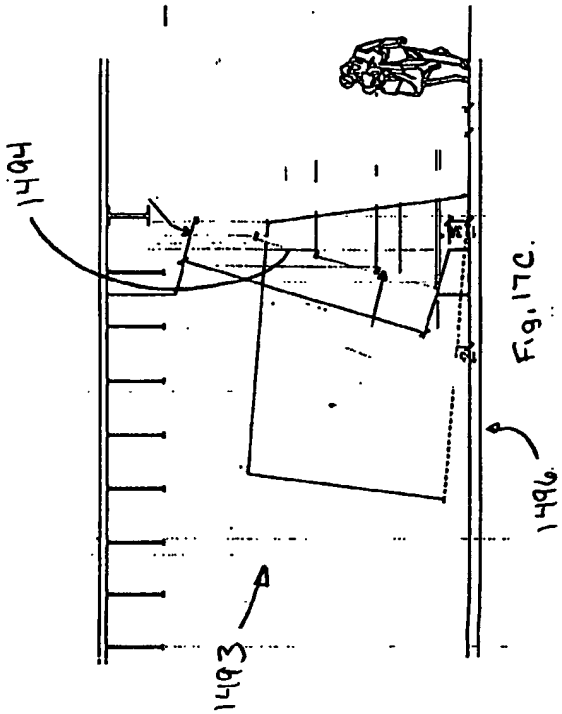


Fig. 17C

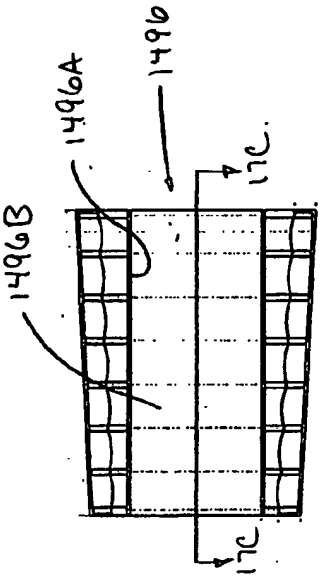


Fig. 17B

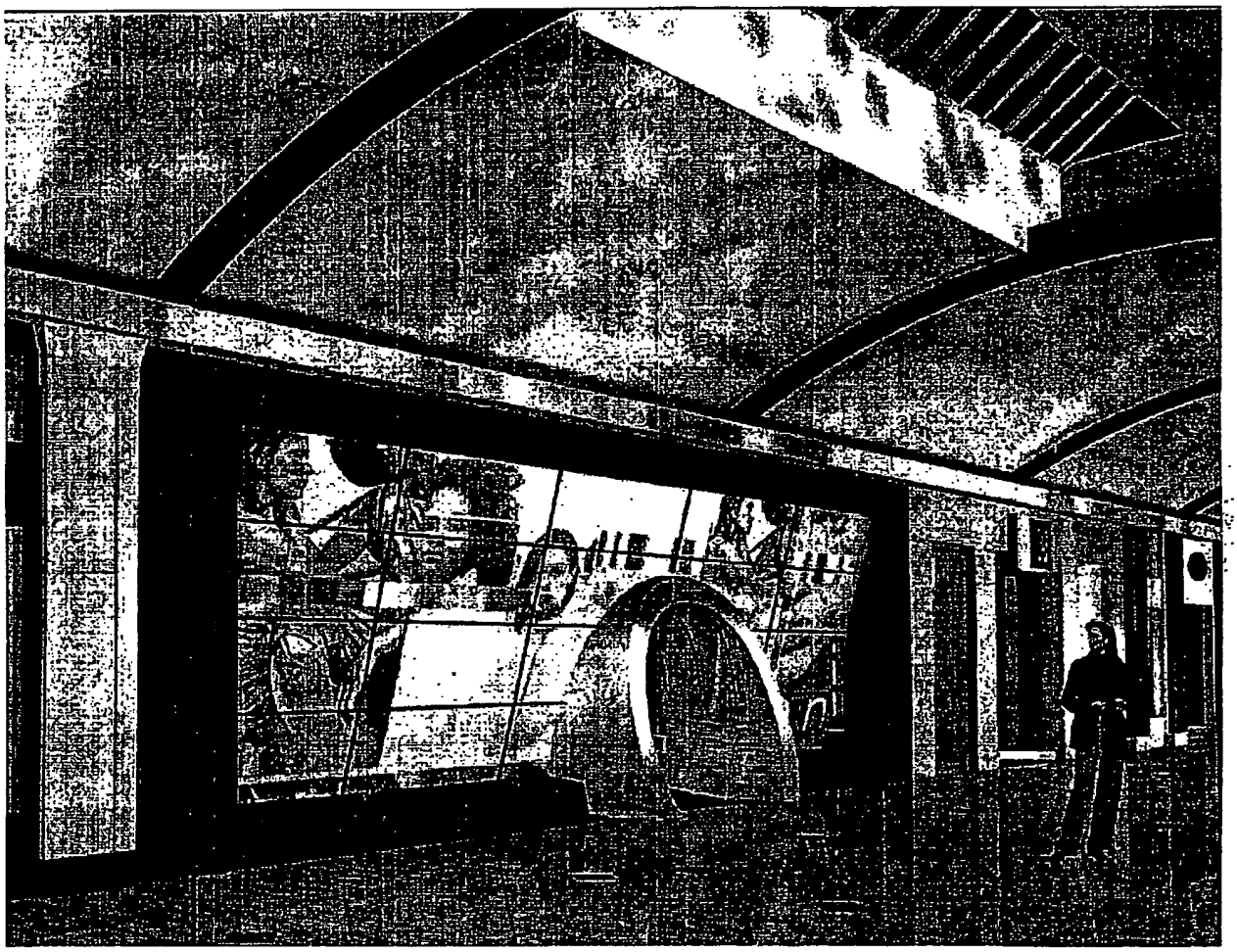


Fig. 18A

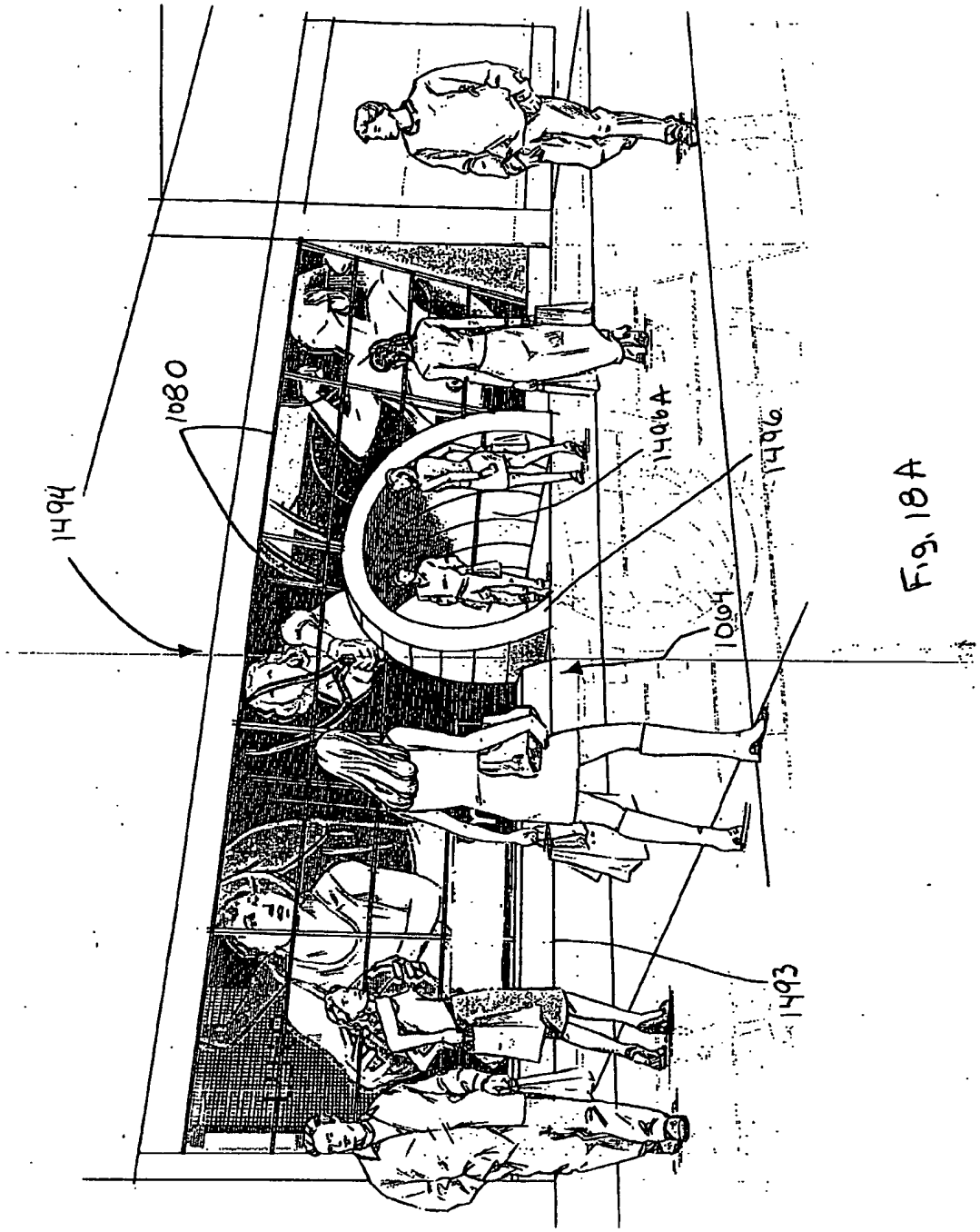


Fig. 18A

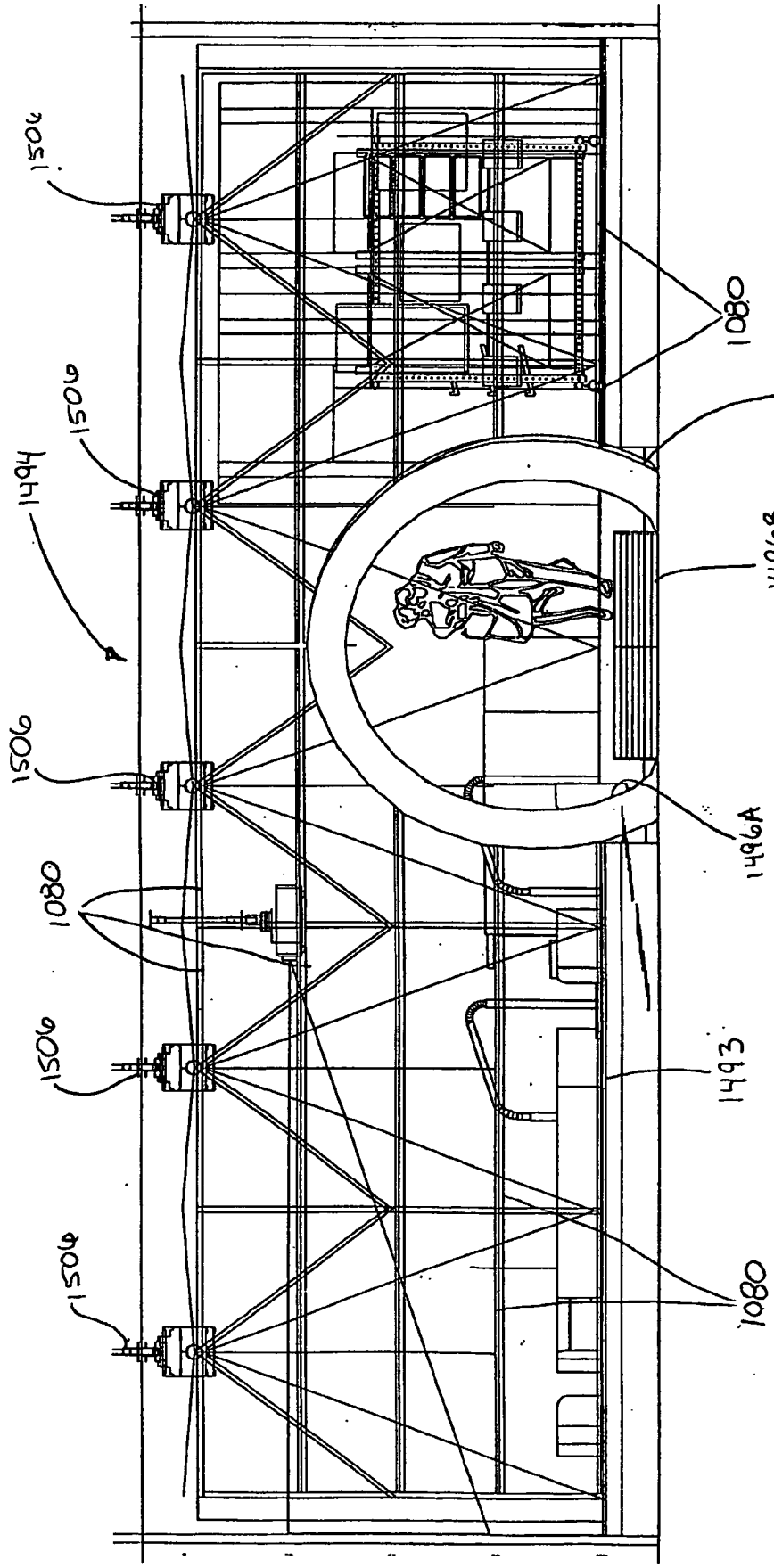

1506
1506
1494
1506
1080
1080
1506
1506
1496
1496B
1496A
1493
1080

Fig. 18B

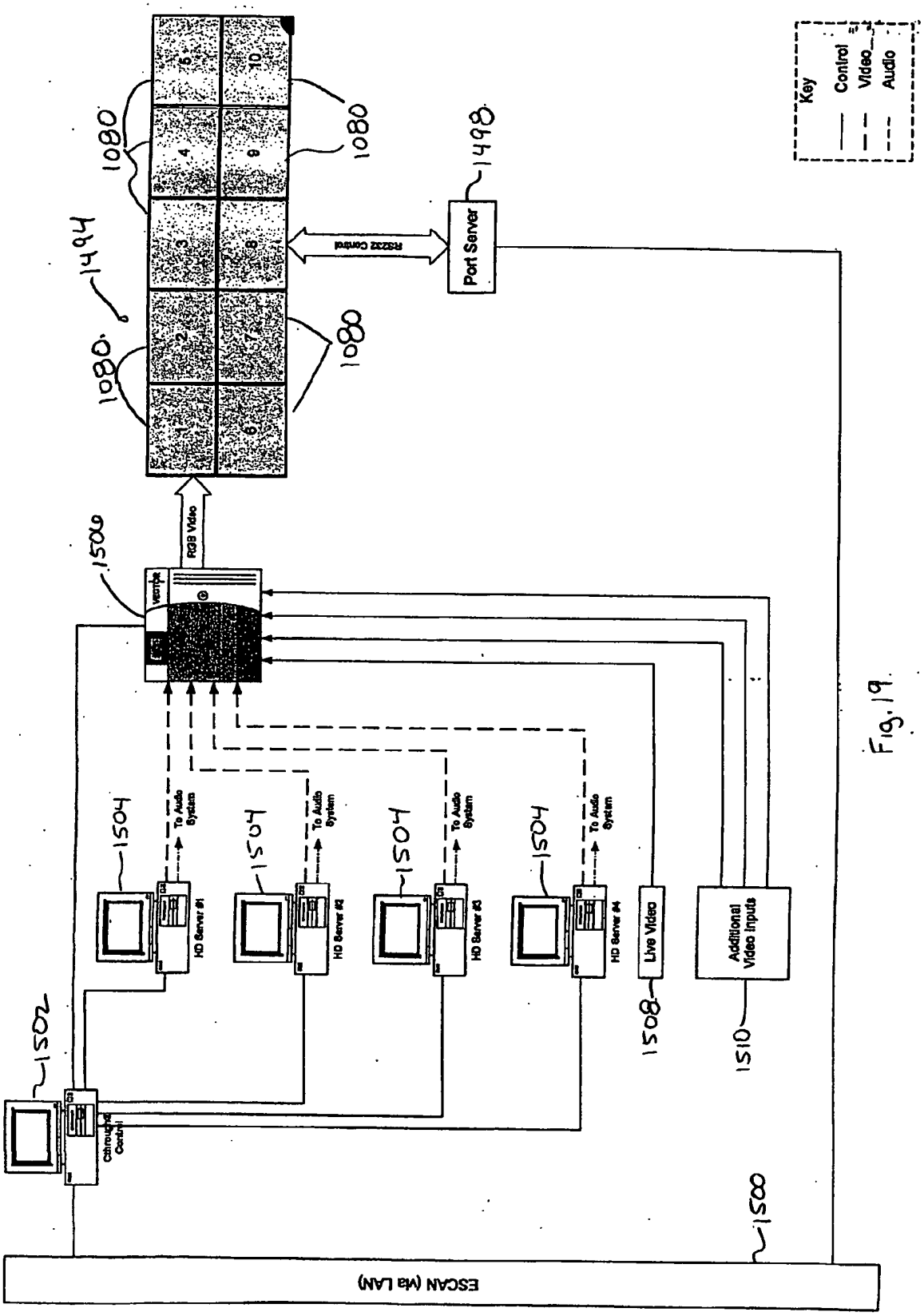

Key
Control
Video
Audio
1080
1080
1080
1080
1494
1498
Port Server
RS232 Control
RGB Video
1500
1502
1504
1504
1504
1504
To Audio System
HD Server #1
HD Server #2
HD Server #3
HD Server #4
Live Video
1508
Additional Video Inputs
1510
1500
ESCAN (Via LAN)

Fig. 19

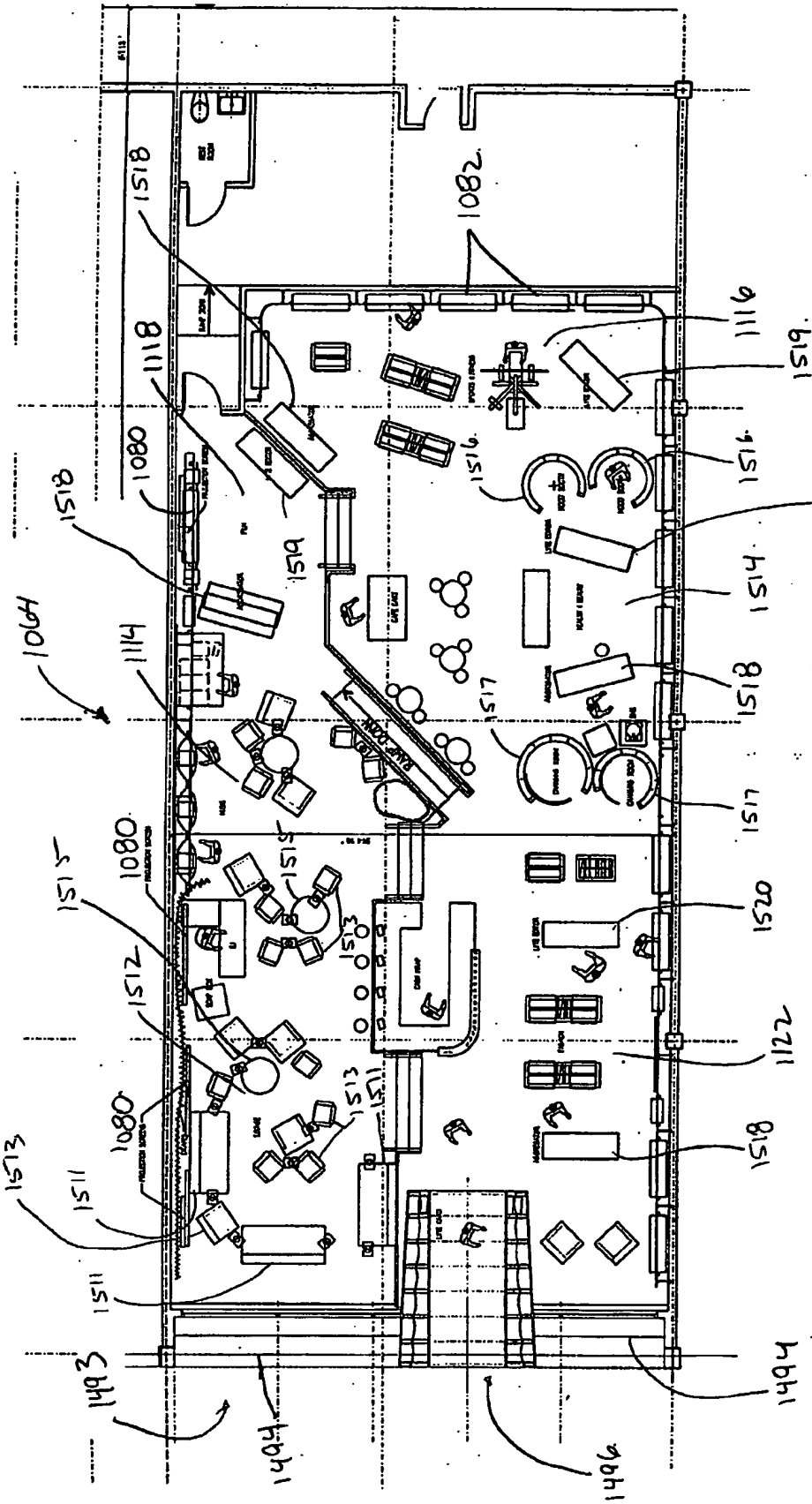

1082
1116
1519
1518
1118
1080
1516
1514
1519
1518
1064
1114
1517
1518
1517
1080
1515
1513
1512
1520
1513
1511
1122
1080
1518
1513
1511
1511
1494
1494
1496

Fig. 20A

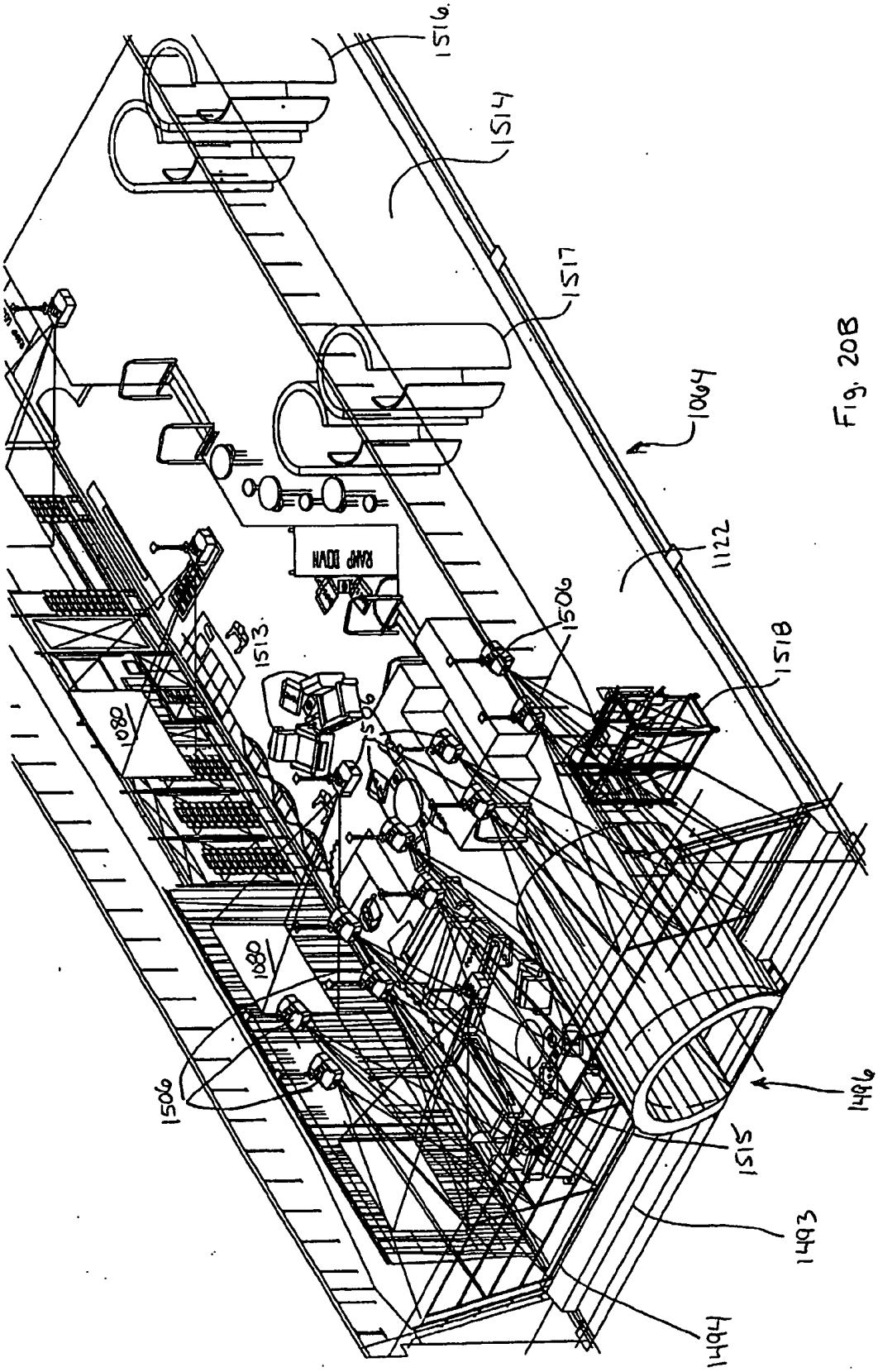

1516
1514
1517
1064
1122
1506
1518
1513
1080
1080
1506
1496
1515
1493
1494
RAMP DOWN

Fig. 20B

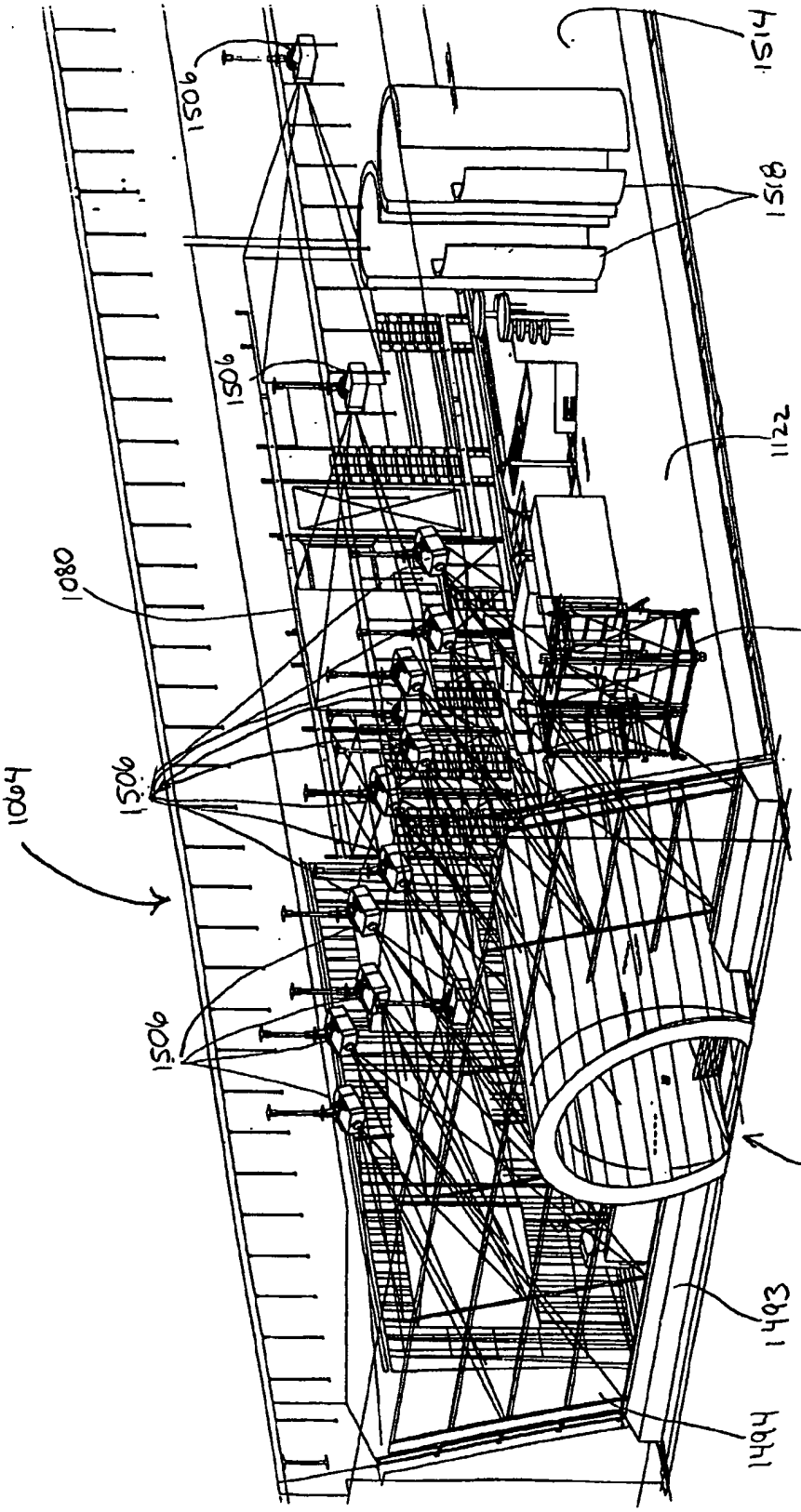

1514
1506
1518
1506
1122
1080
1518
1064
1506
1506
1496
1493
1491

Fig. 20C

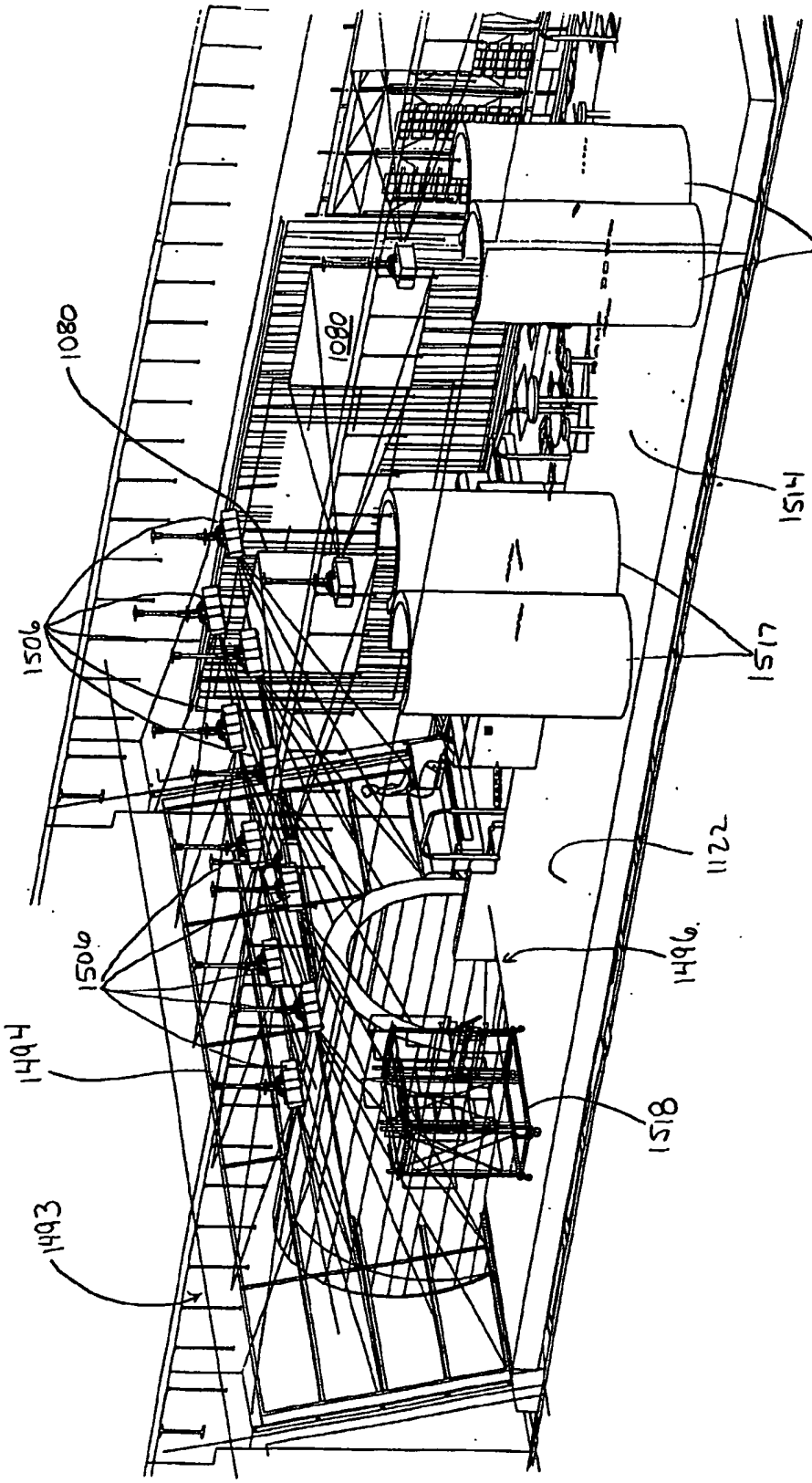


Fig. 20D

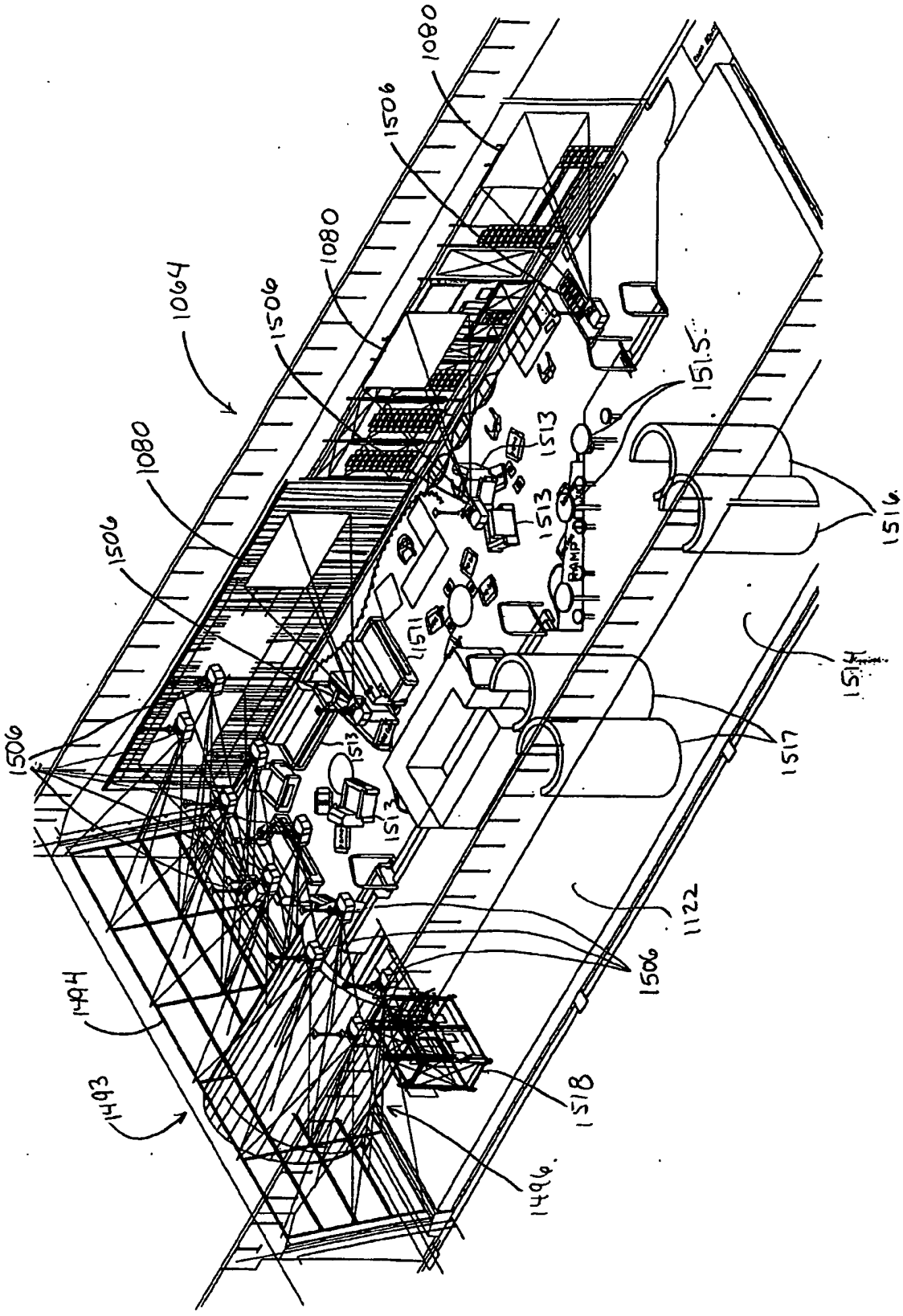

1080
1506
1080
1506
1064
1080
1506
1513
1515
1513
1516
1511
1514
1517
1513
1513
1506
1122
1506
1494
1493
1518
1496

Fig. 20E

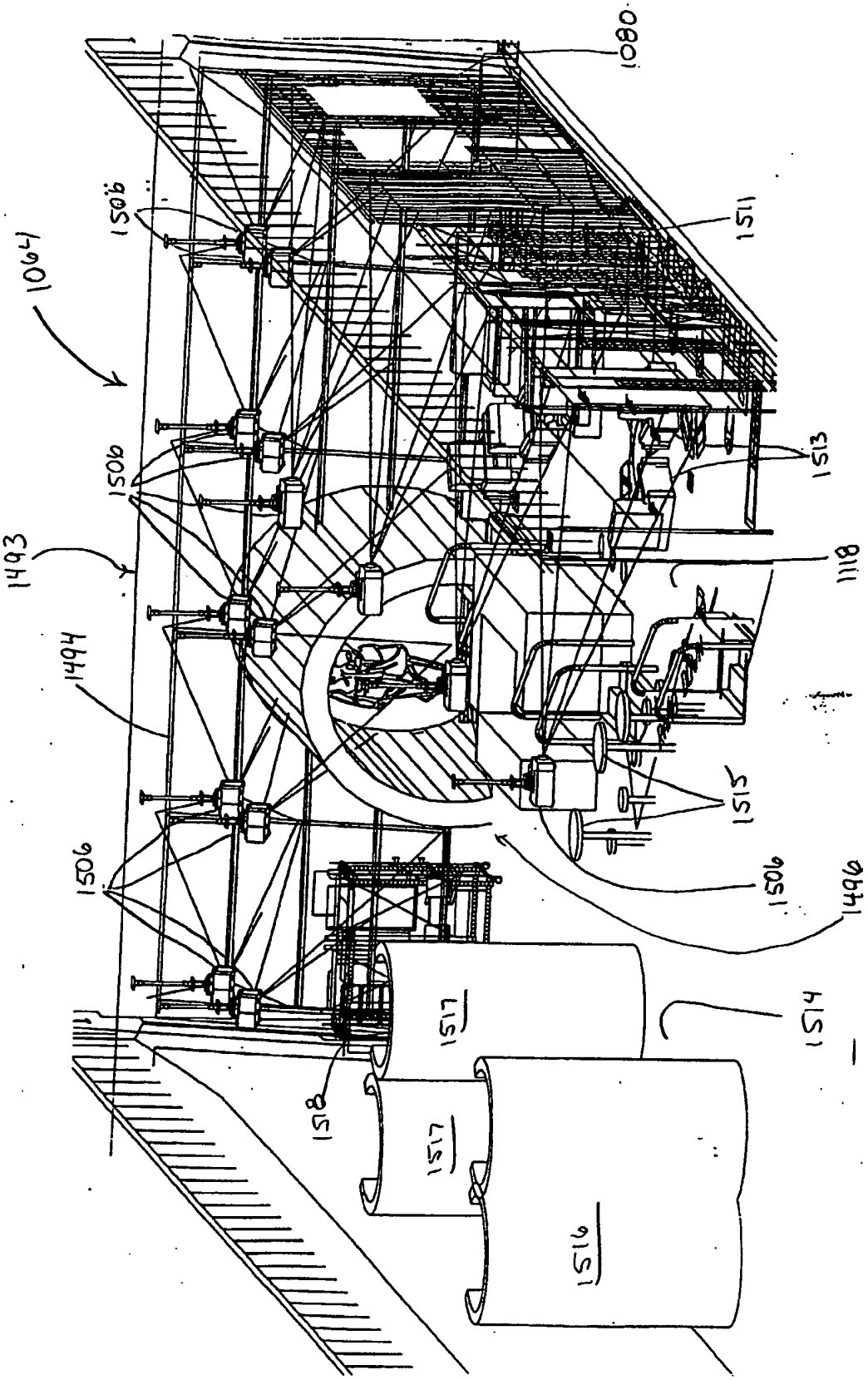

1090
1511
1513
1118
1515
1496
1514
1517
1517
1516
1518
1506
1506
1506
1494
1493
1064

Fig. 20F

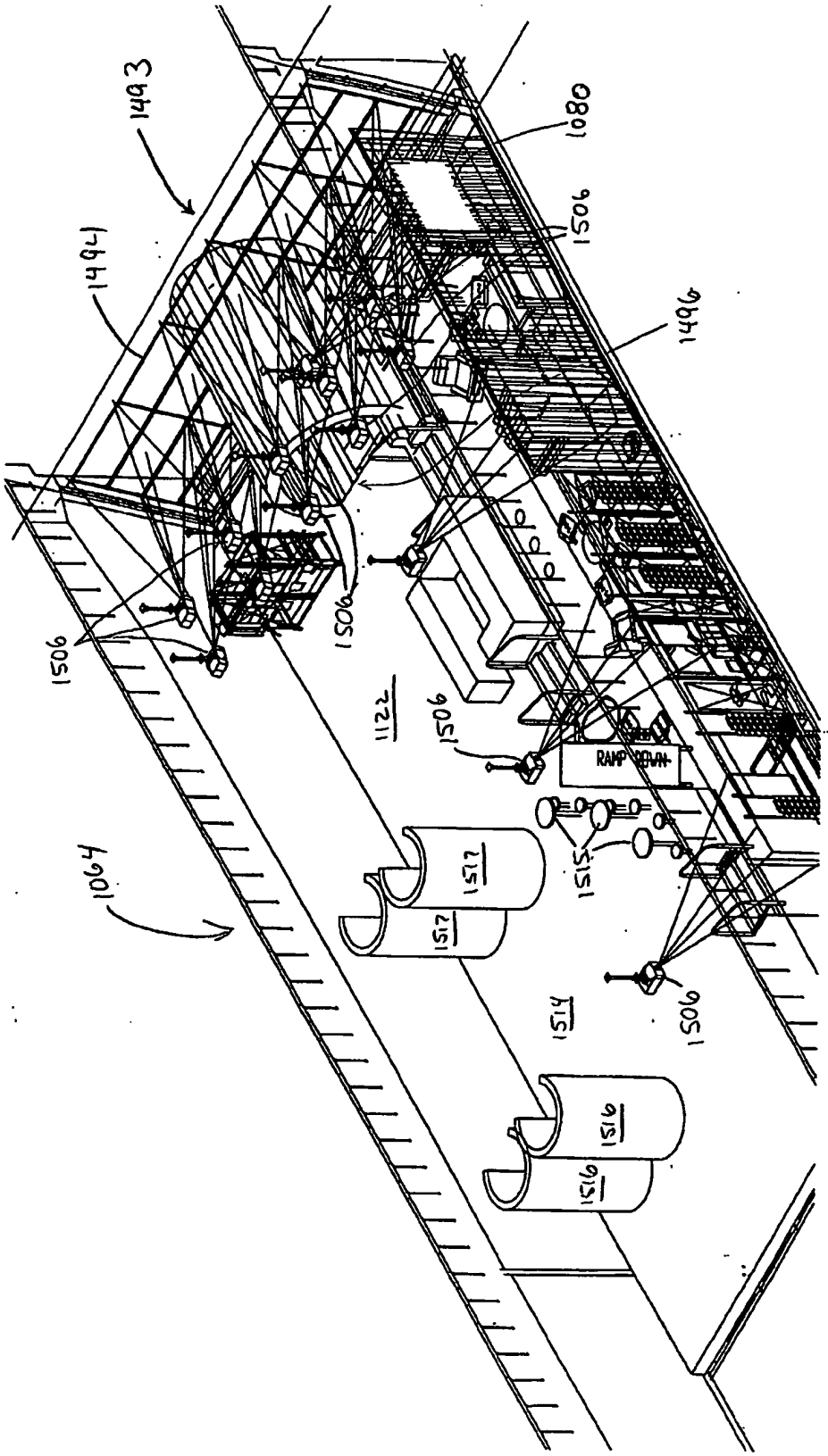

1493
1080
1506
1494
1496
1506
1506
1122
1506
RAMP DOWN
1064
1515
1517
1517
1514
1506
1516
1516

Fig. 20G

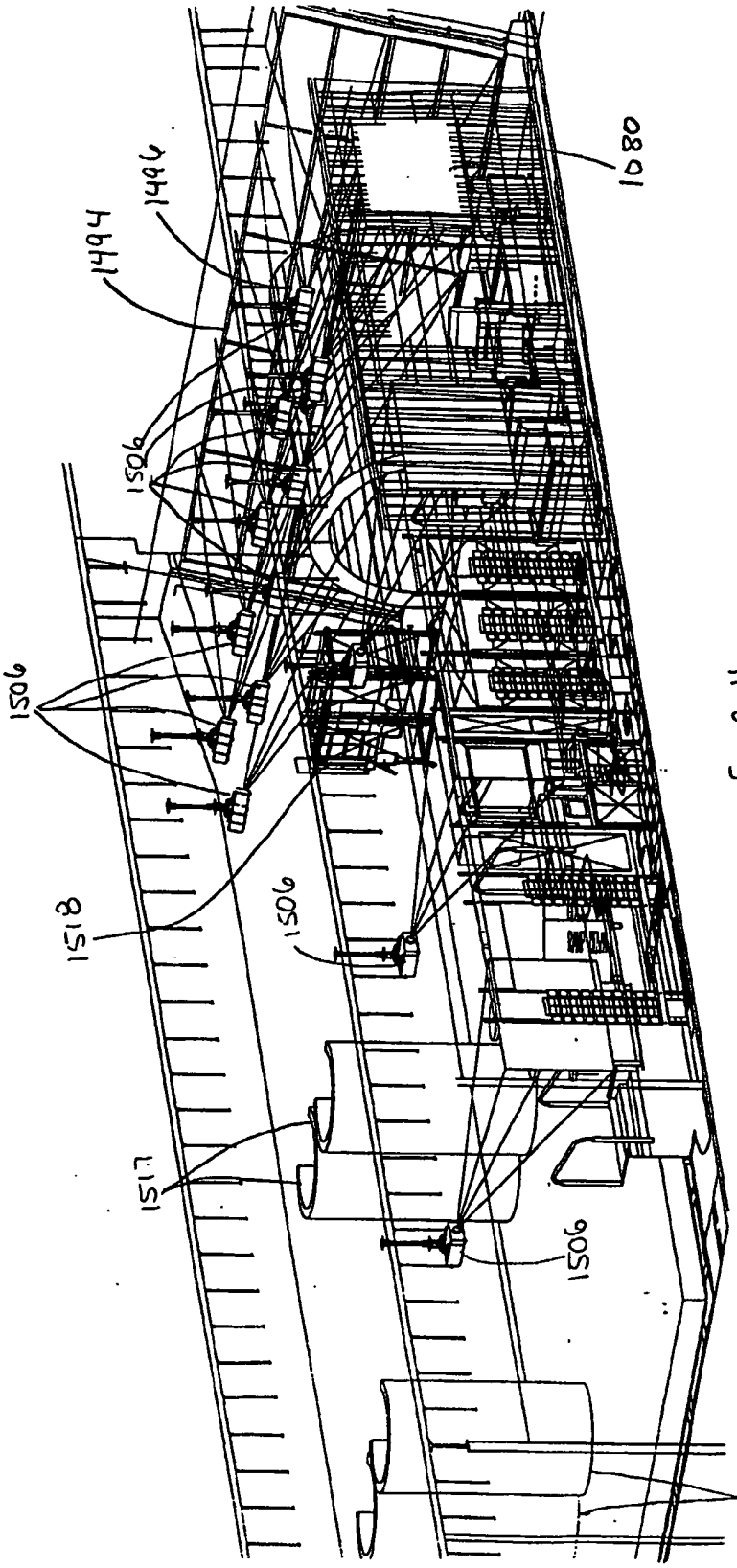


fig. 20H

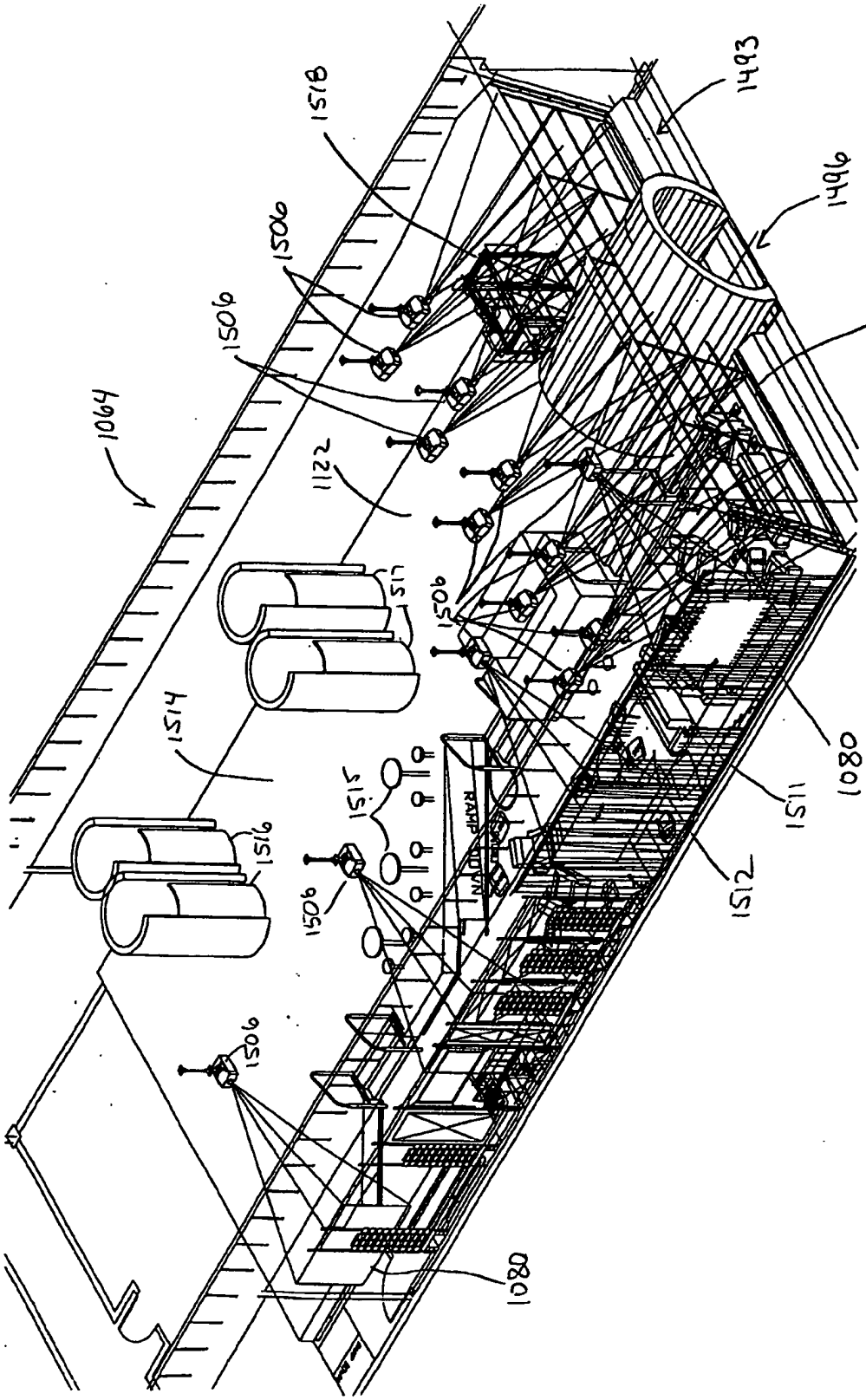

1518
1493
1496
1500
1494
1506
1064
1122
1514
1516
1515
1512
1511
1080

Fig. 20 I

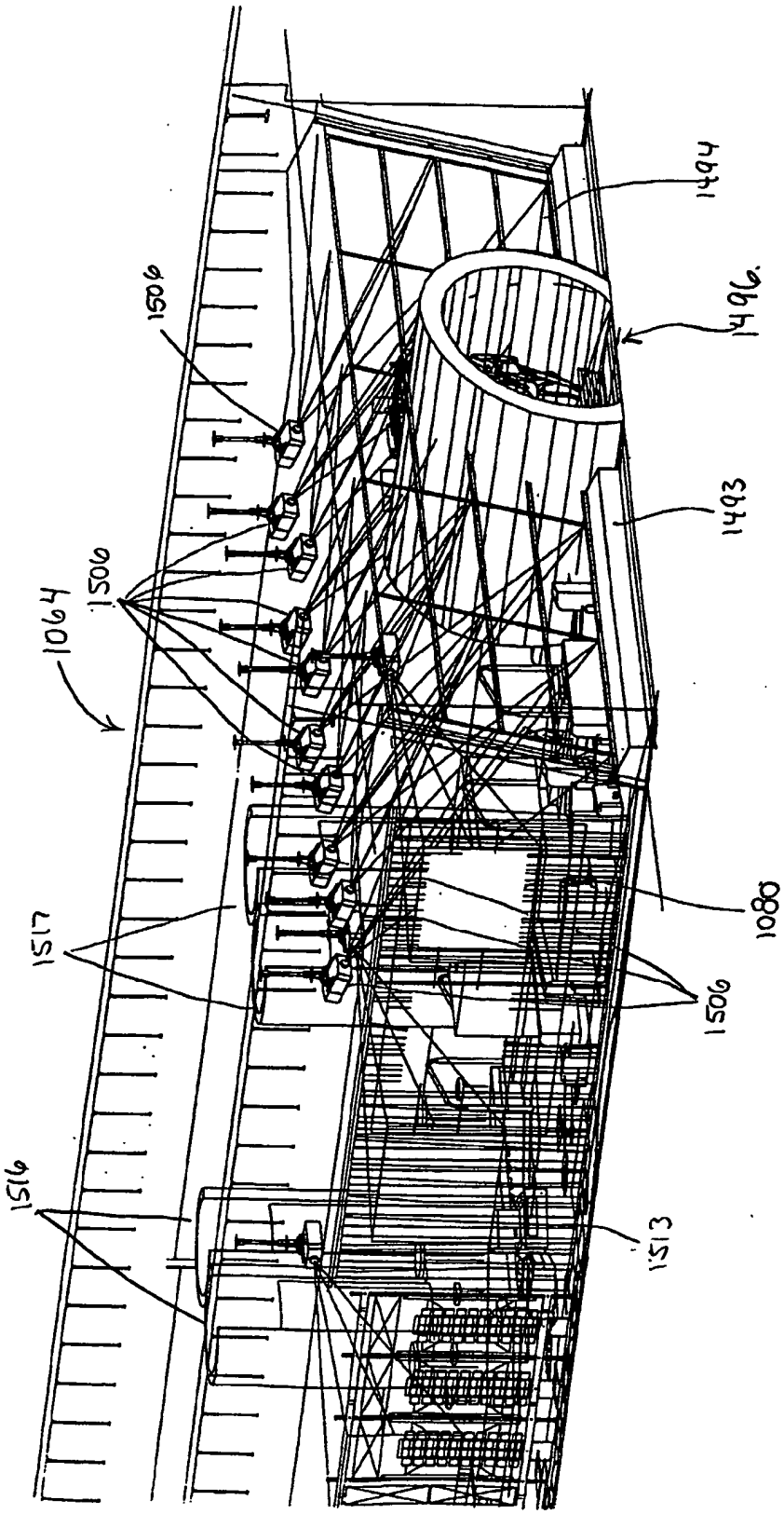


Fig. 20T

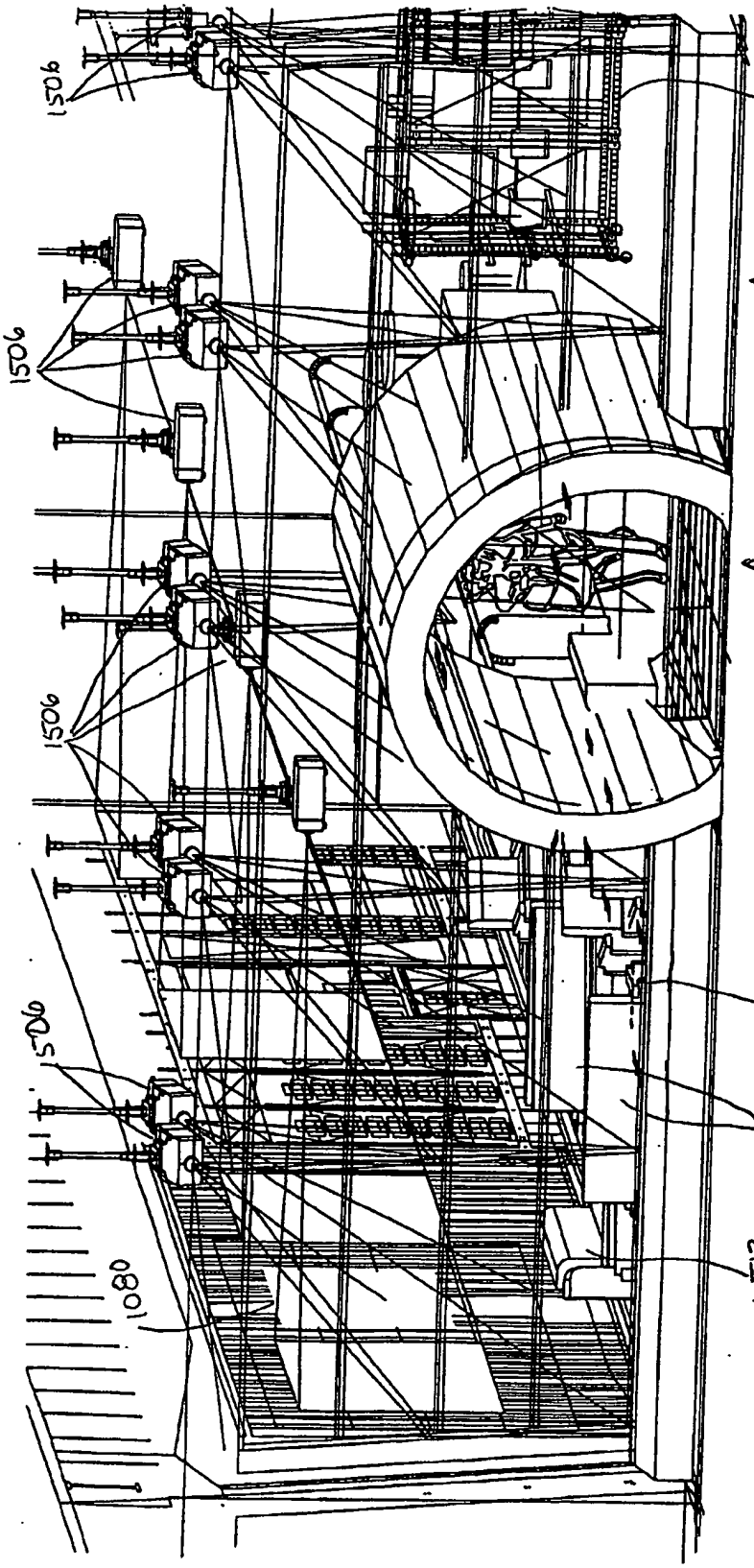


Fig. 20K.

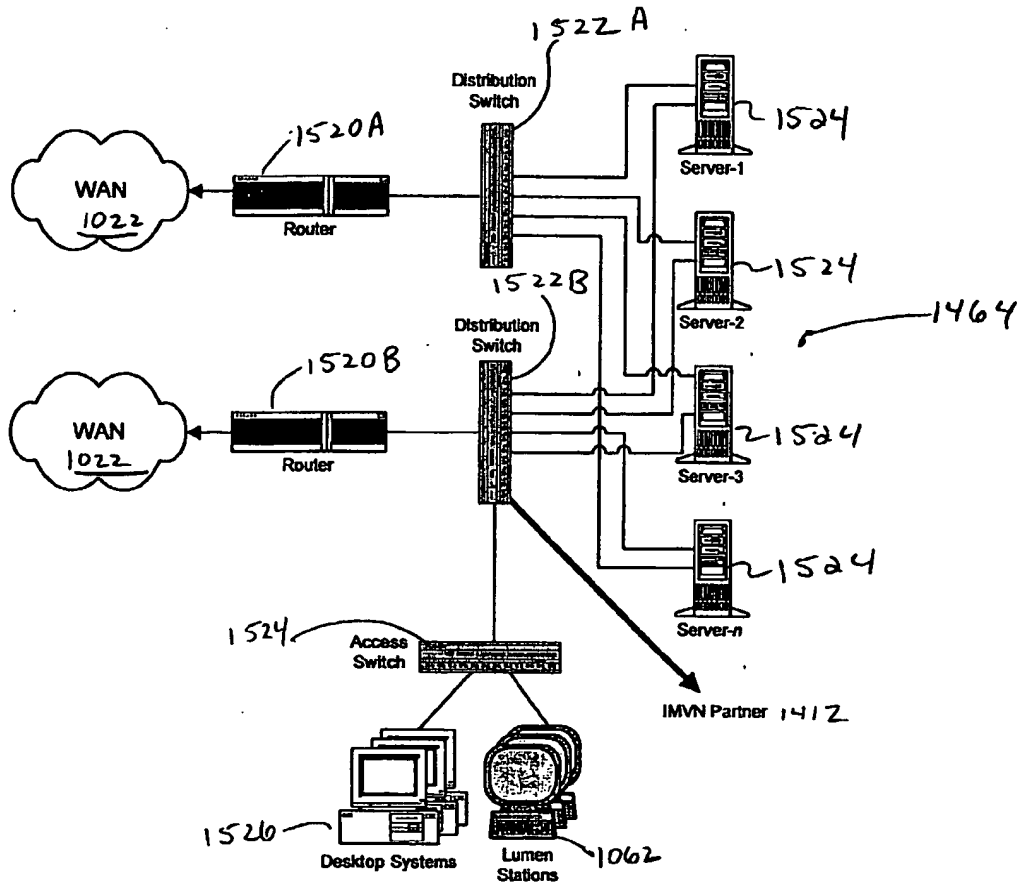

1522A
Distribution Switch
1520A
WAN
1022
Router
1524
Server-1
1524
Server-2
1522B
Distribution Switch
1464
1520B
WAN
1022
Router
1524
Server-3
1524
Server-n
1524
Access Switch
IMVN Partner 1412
1526
Desktop Systems
Lumen Stations
1062

Fig. 21

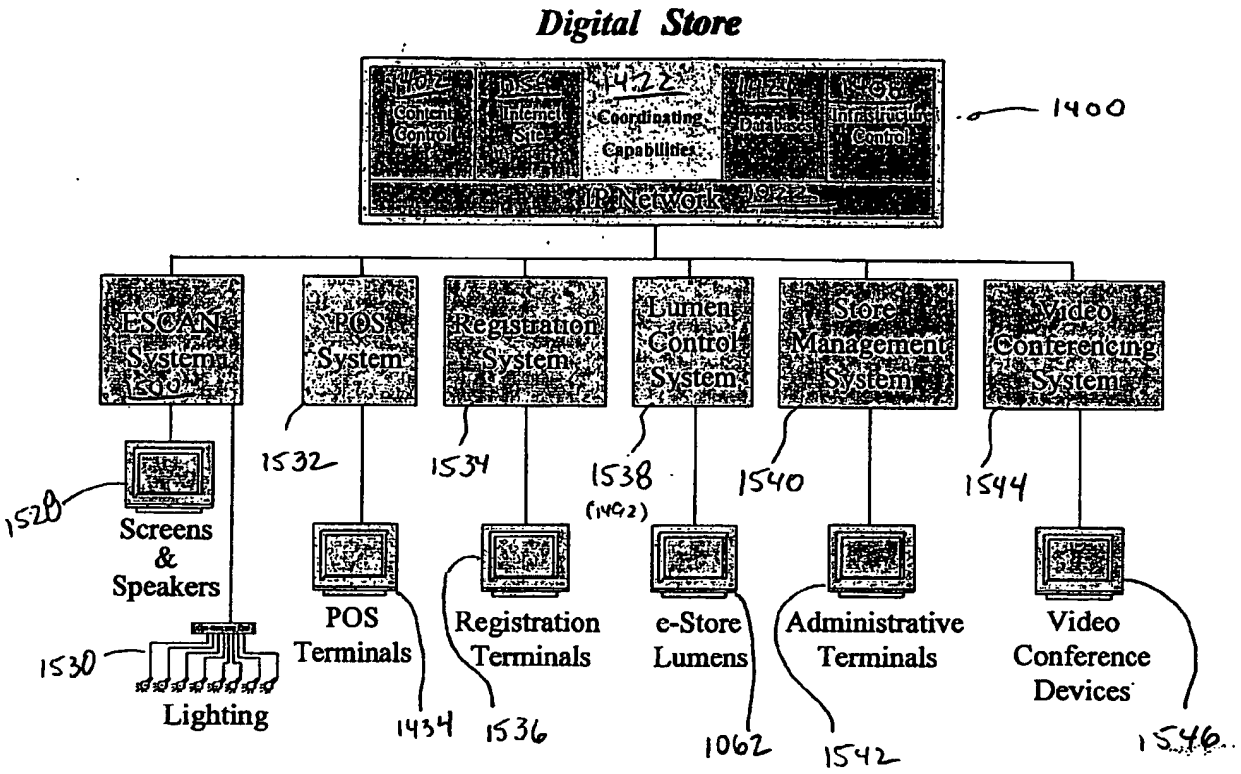

Digital Store
Content Control
Internet Site
1422
Coordinating Capabilities
Database
Infrastructure Control
1400
The Network
ESCAN System
POS System
Registration System
Lumen Control System
Store Management System
Video Conferencing System
1528
1532
1534
1538
(1402)
1540
1544
Screens & Speakers
POS Terminals
Registration Terminals
e-Store Lumens
Administrative Terminals
Video Conference Devices
1530
Lighting
1434
1536
1062
1542
1546

Fig. 22

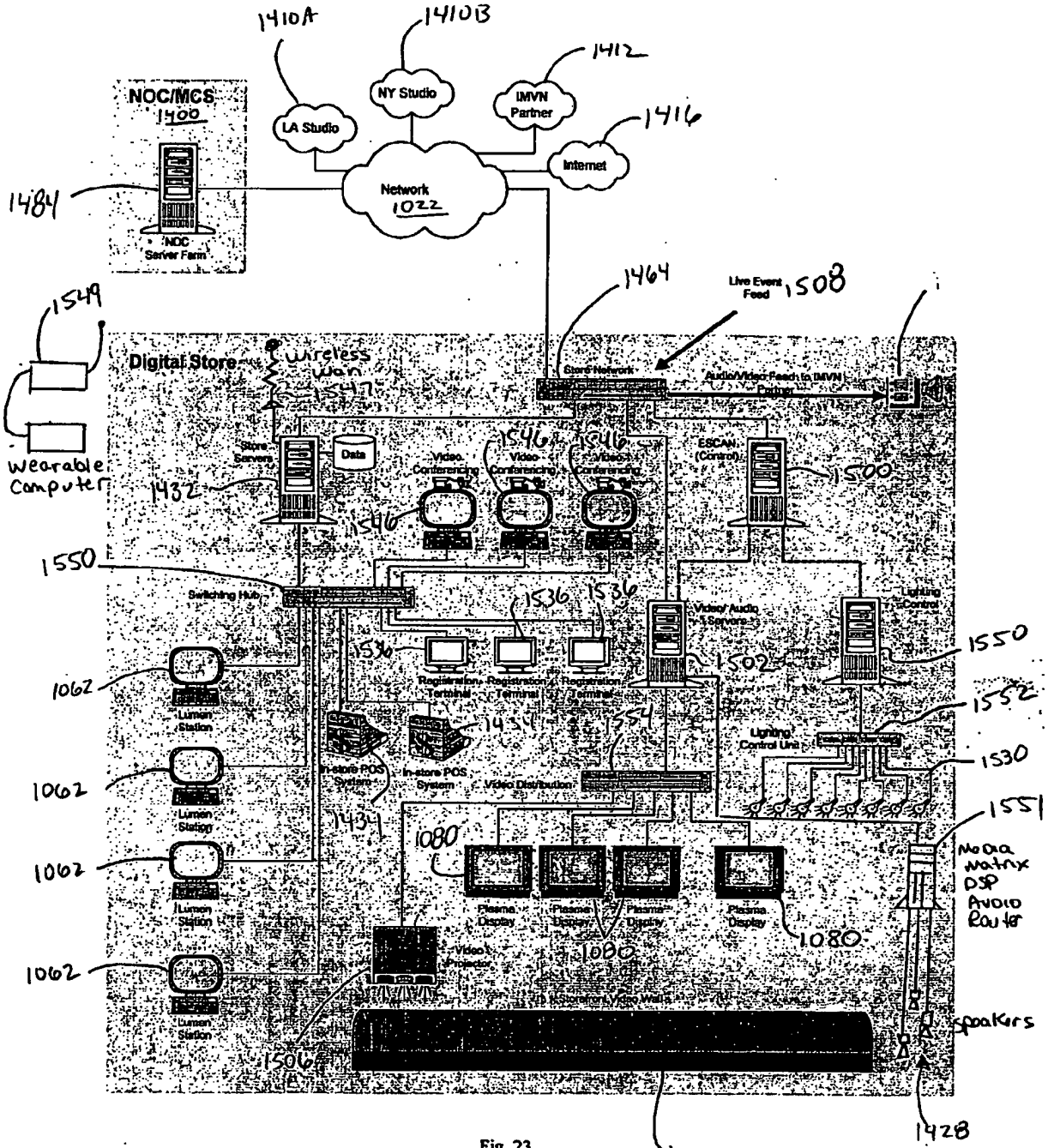

1410A
1410B
1412
1416
NOC/MCS
1400
LA Studio
NY Studio
IMVN Partner
Internet
Network
1022
1484
NOC Server Farm
1464
Live Event Feed
1508
1549
Digital Store
Wireless WAN
1547
Store Network
Audio/Video Feed to IMVN Partner
Wearable Computer
Store Servers
Data
1546
Video Conferencing
ESCAN (Control)
1500
1432
1550
Switching Hub
1536
Video/ Audio Servers
Lighting Control
1502
1552
Registration Terminal
1554
Lighting Control Unit
1530
1062
Lumen Station
In-store POS System
Video Distribution
1434
1551
1080
Plasma Display
Nooa matrix DSP Audio Router
1000
Video Projector
In-store Video Wall
1506
speakers
1428
1494

Fig. 23

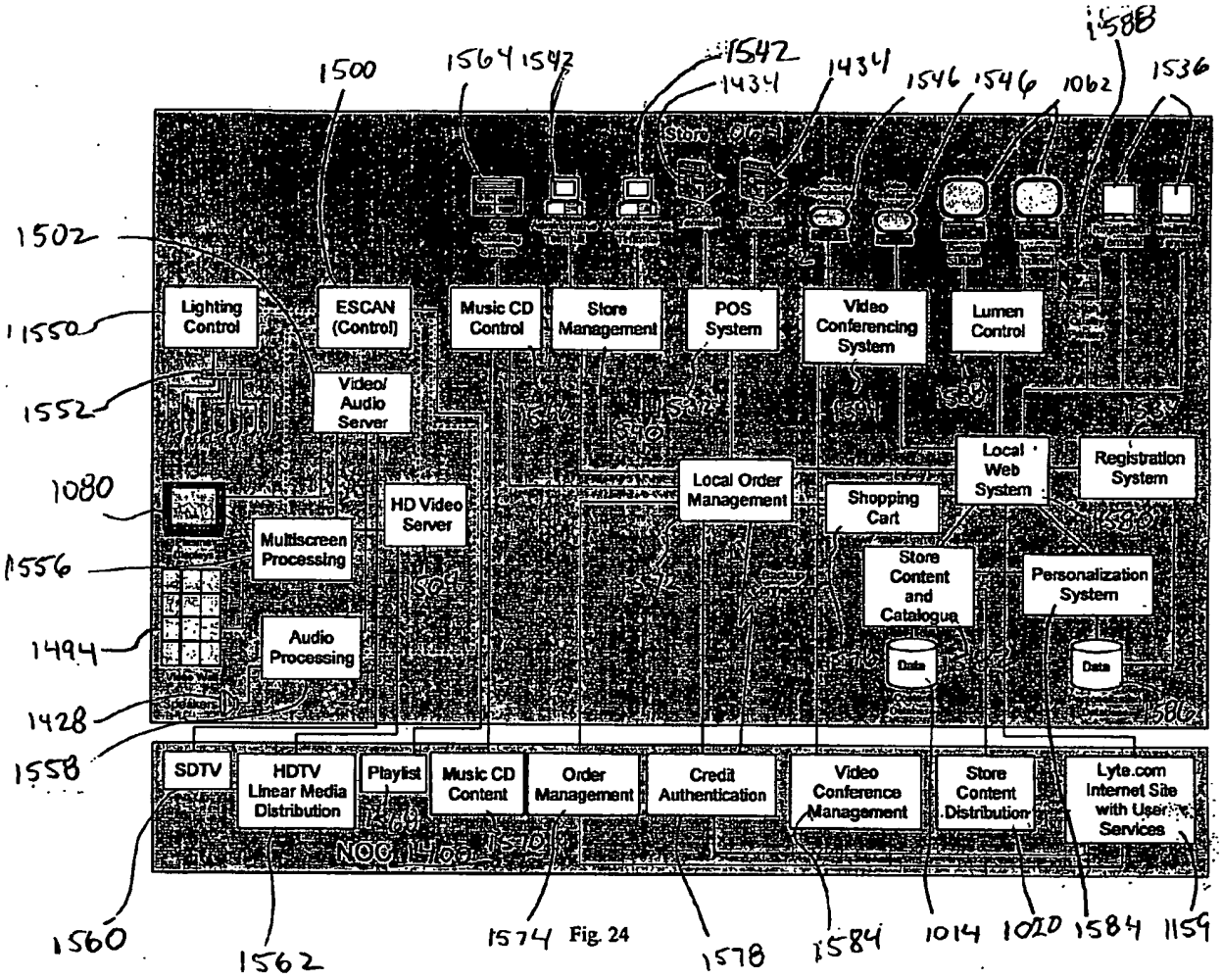

1500
1564
1547
1542
1434
1434
1546
1546
1062
1588
1536
1502
1550
1552
1080
1556
1494
1428
1558
Lighting Control
ESCAN (Control)
Music CD Control
Store Management
POS System
Video Conferencing System
Lumen Control
Video/ Audio Server
HD Video Server
Local Order Management
Shopping Cart
Local Web System
Registration System
Multiscreen Processing
Store Content and Catalogue
Personalization System
Audio Processing
Data
Data
SDTV
HDTV Linear Media Distribution
Playlist
Music CD Content
Order Management
Credit Authentication
Video Conference Management
Store Content Distribution
Lyte.com Internet Site with User Services
NOC
1560
1562
1574
1578
1584
1014
1020
1584
1159

Fig. 24

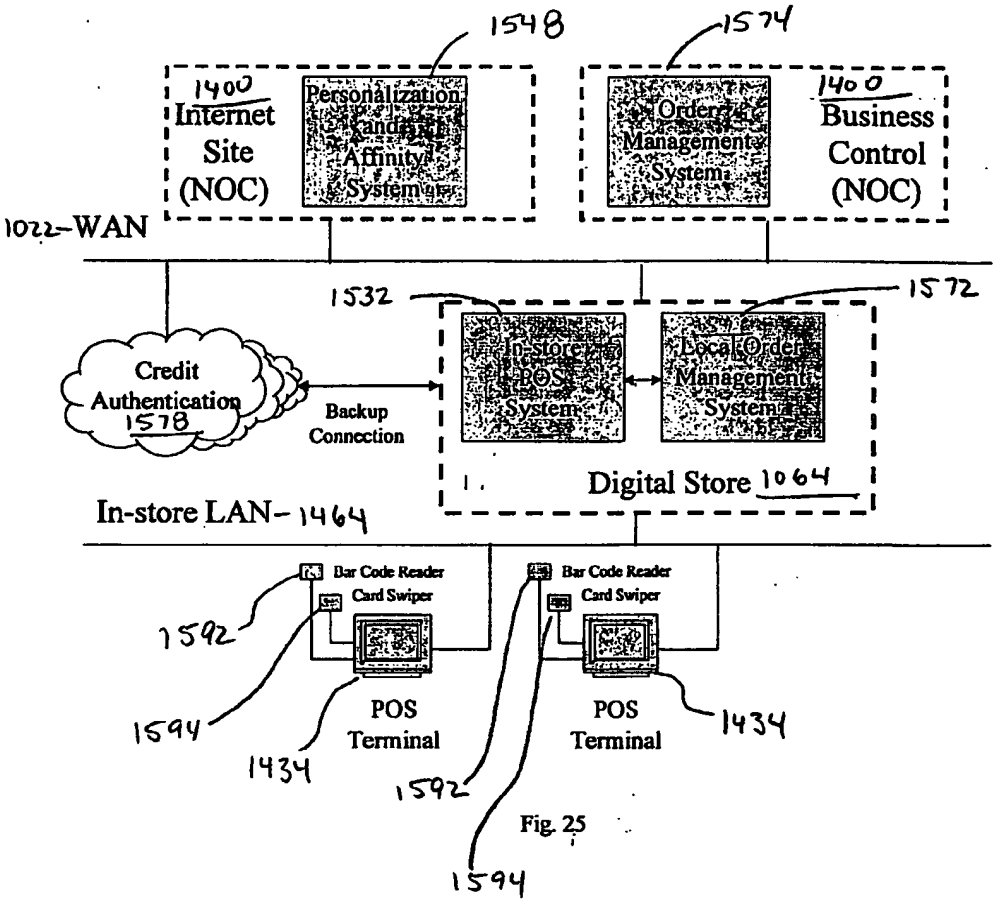

1548
1574
1400
Internet Site (NOC)
Personalization & Affinity System
Order Management System
1400
Business Control (NOC)
1022-WAN
1532
1572
Credit Authentication 1578
Backup Connection
In-store POS System
Local Order Management System
Digital Store 1064
In-store LAN- 1464
Bar Code Reader
Card Swiper
1592
1594
1434
POS Terminal
Bar Code Reader
Card Swiper
POS Terminal
1434
1592
1594

Fig. 25

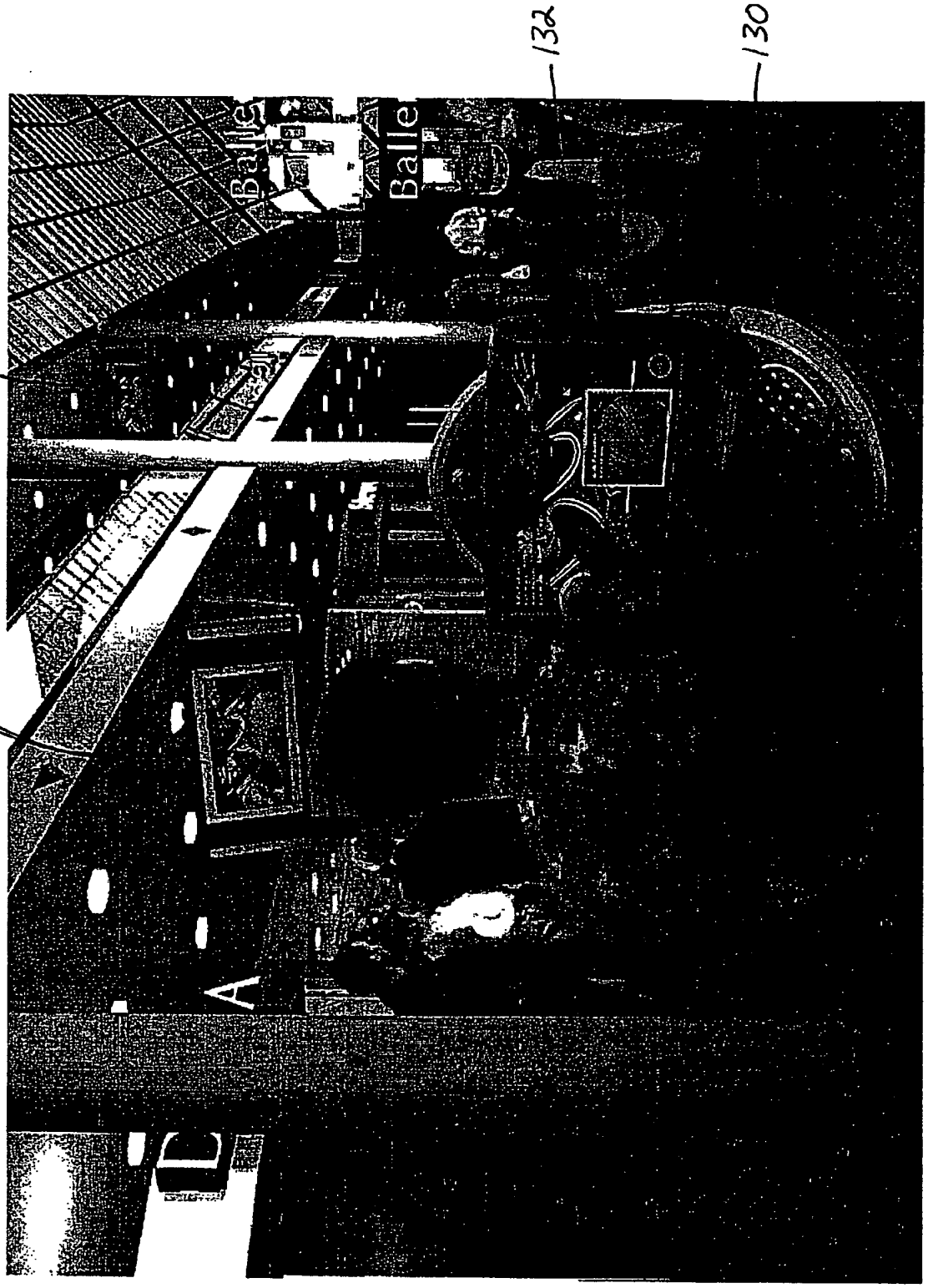


Fig. 26

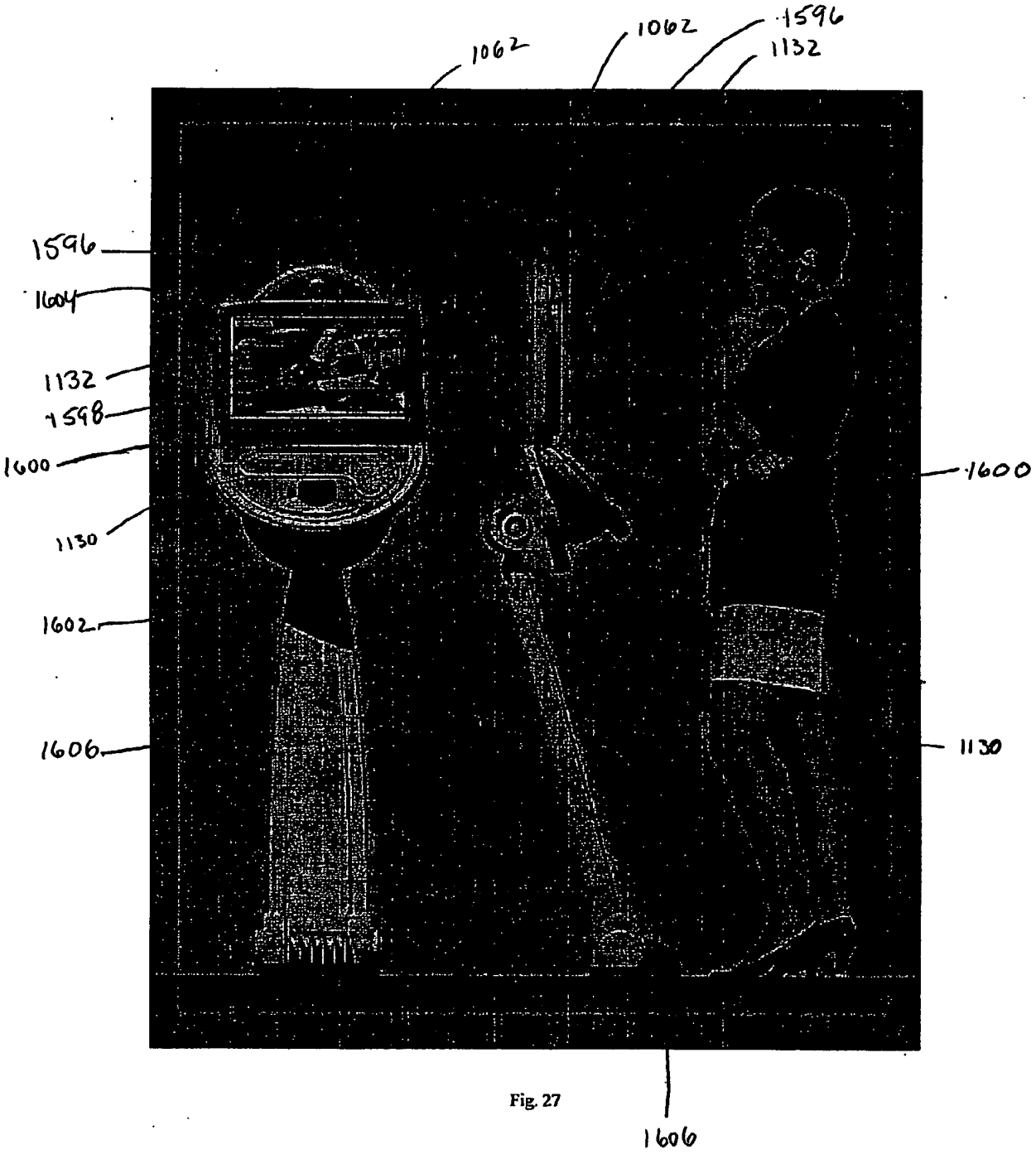

1062
1062
1596
1132
1596
1604
1132
1598
1600
1130
1602
1606
1600
1130
1606

Fig. 27

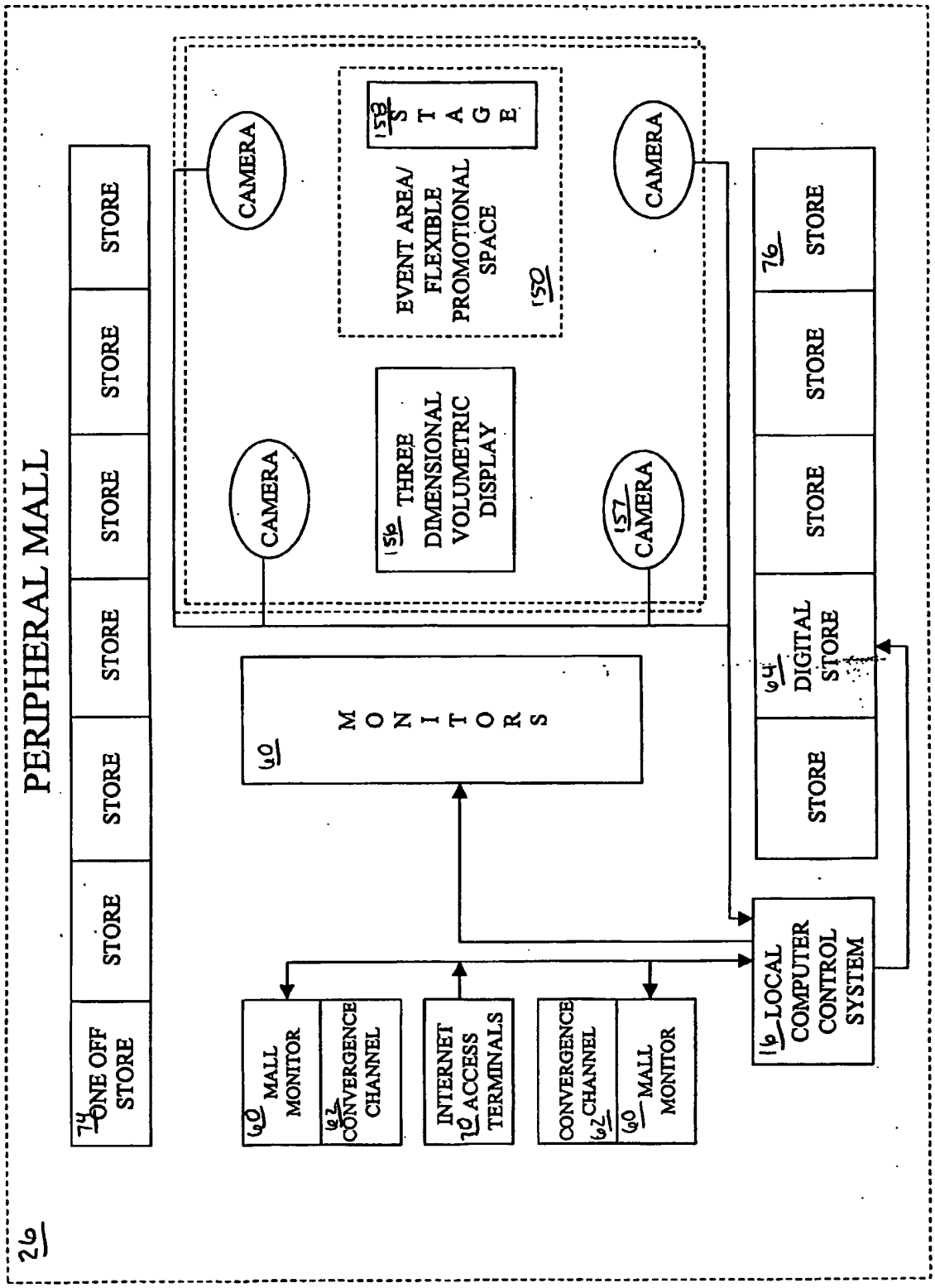

PERIPHERAL MALL
20
74 ONE OFF STORE
STORE
STORE
STORE
STORE
STORE
STORE
CAMERA
CAMERA
CAMERA
CAMERA
EVENT AREA/ FLEXIBLE PROMOTIONAL SPACE
150
152 STAGE
156 THREE DIMENSIONAL VOLUMETRIC DISPLAY
157 CAMERA
MONITORS
60
60 MALL MONITOR
62 CONVERGENCE CHANNEL
INTERNET ACCESS TERMINALS
70
CONVERGENCE CHANNEL
62
60 MALL MONITOR
16 LOCAL COMPUTER CONTROL SYSTEM
94 DIGITAL STORE
STORE
STORE
STORE
76
STORE

FIG. 28

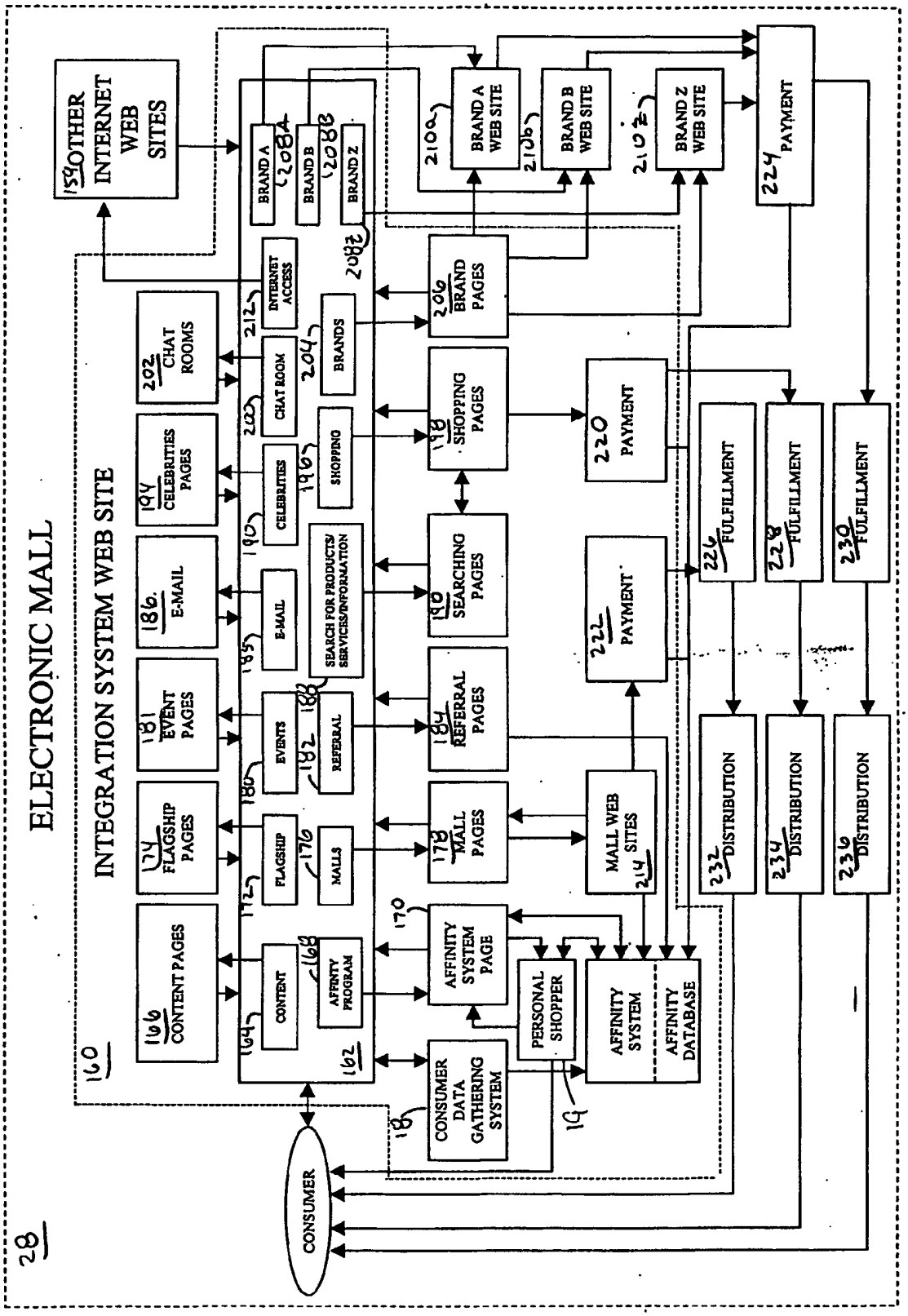

28
ELECTRONIC MALL
160
INTEGRATION SYSTEM WEB SITE
OTHER INTERNET WEB SITES
CONSUMER
CONSUMER DATA GATHERING SYSTEM
PERSONAL SHOPPER
AFFINITY SYSTEM
AFFINITY DATABASE
AFFINITY SYSTEM PAGE
AFFINITY PROGRAM
CONTENT
CONTENT PAGES
FLAGSHIP
FLAGSHIP PAGES
MALLS
MALL PAGES
MALL WEB SITES
EVENTS
EVENT PAGES
REFERRAL
REFERRAL PAGES
E-MAIL
SEARCH FOR PRODUCTS/ SERVICES/INFORMATION
SEARCHING PAGES
CELEBRITIES
CELEBRITIES PAGES
CHAT ROOM
CHAT ROOMS
INTERNET ACCESS
BRANDS
BRAND PAGES
SHOPPING
SHOPPING PAGES
BRAND A
BRAND B
BRAND Z
BRAND A WEB SITE
BRAND B WEB SITE
BRAND Z WEB SITE
PAYMENT
FULFILLMENT
DISTRIBUTION

FIG. 29

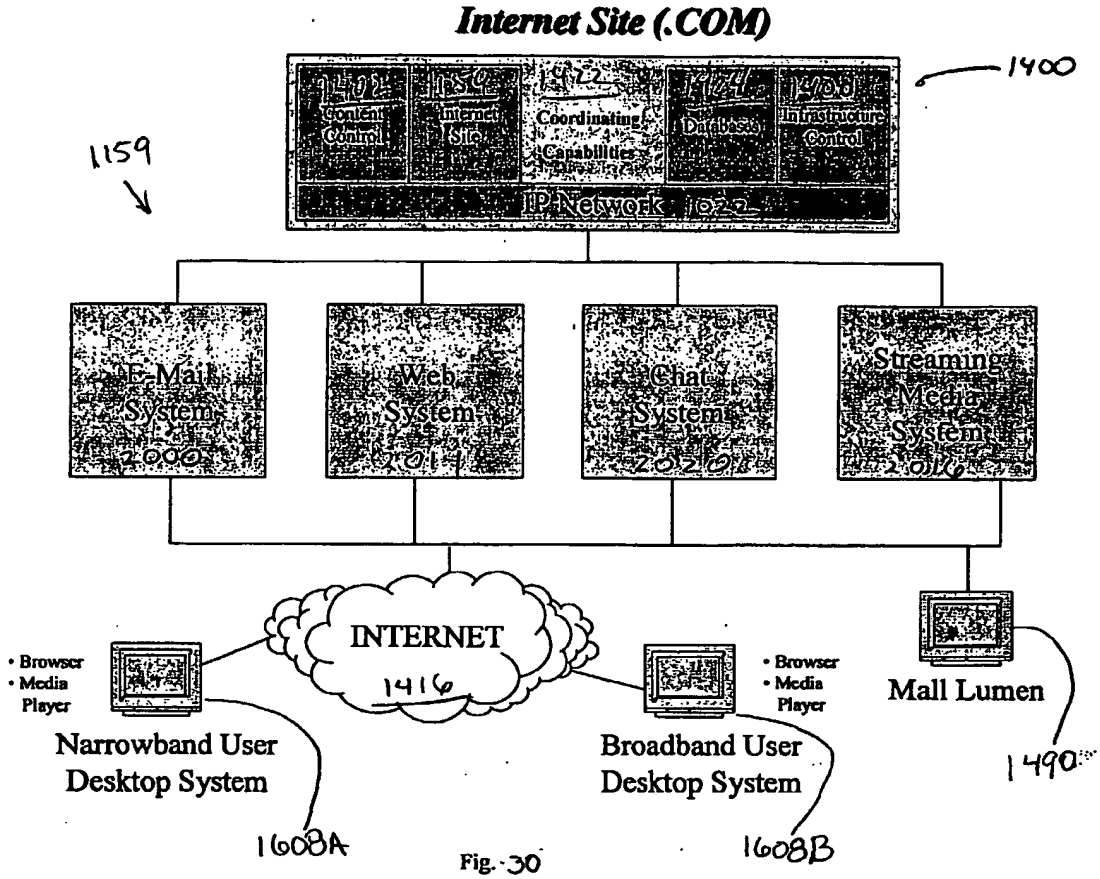

Internet Site (.COM)
1400
1159
Content Control
Internet Site
Coordinating Capabilities
Database
Infrastructure Control
IP Network 1620
E-Mail System 2000
Web System 2014
Chat System 2020
Streaming Media System 2016
INTERNET
1416
• Browser
• Media Player
Narrowband User Desktop System
1608A
• Browser
• Media Player
Broadband User Desktop System
1608B
Mall Lumen
1490

Fig. 30

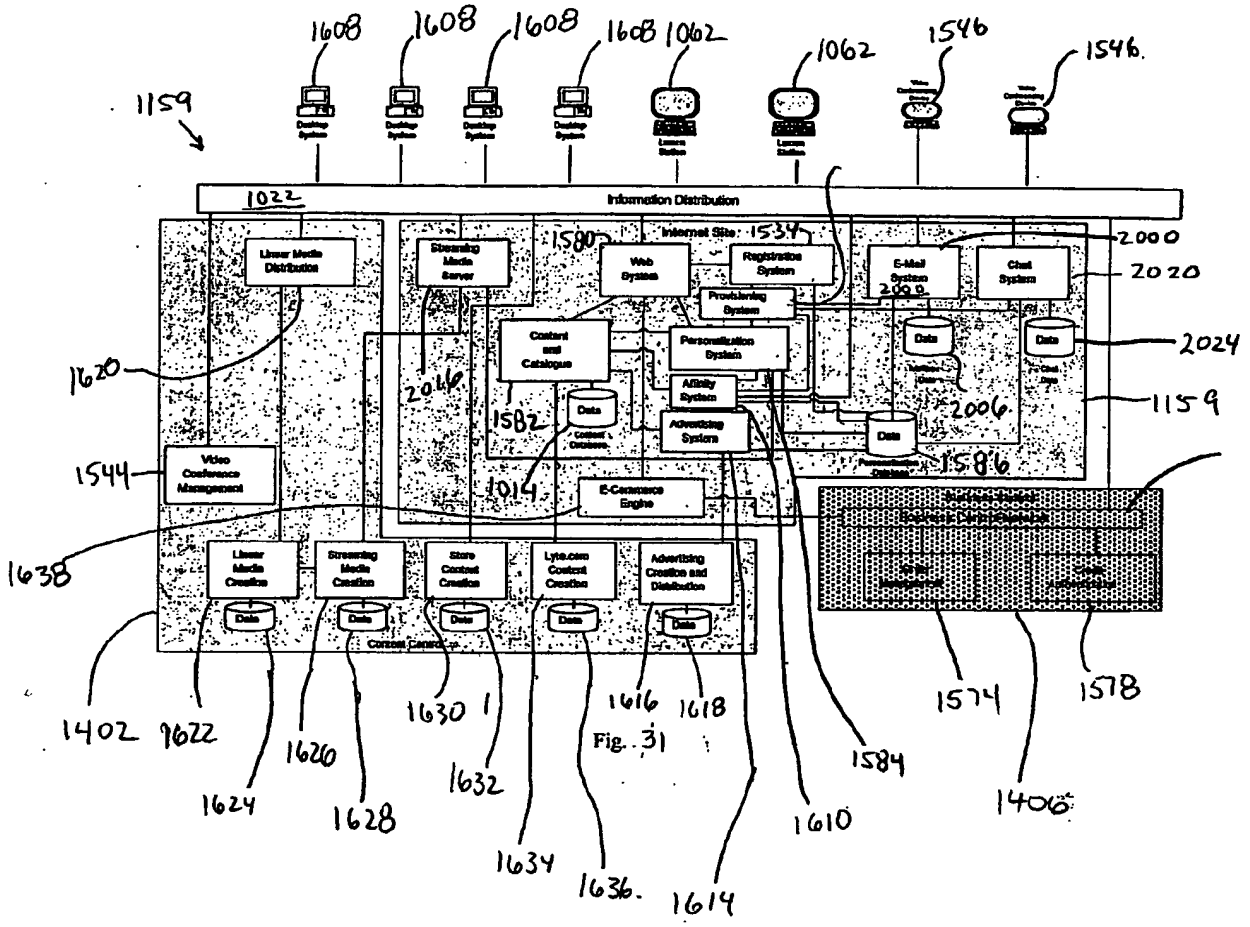

1608
1608
1608
1608
1062
1062
1546
1546
1159
1022
Information Distribution
Internet Site
1534
1580
2000
2020
2024
2006
1159
1586
1620
1544
1638
1582
1014
2046
1402
1622
1624
1626
1628
1630
1632
1634
1636
1614
1616
1618
1610
1584
1574
1578
1406

Fig. 31

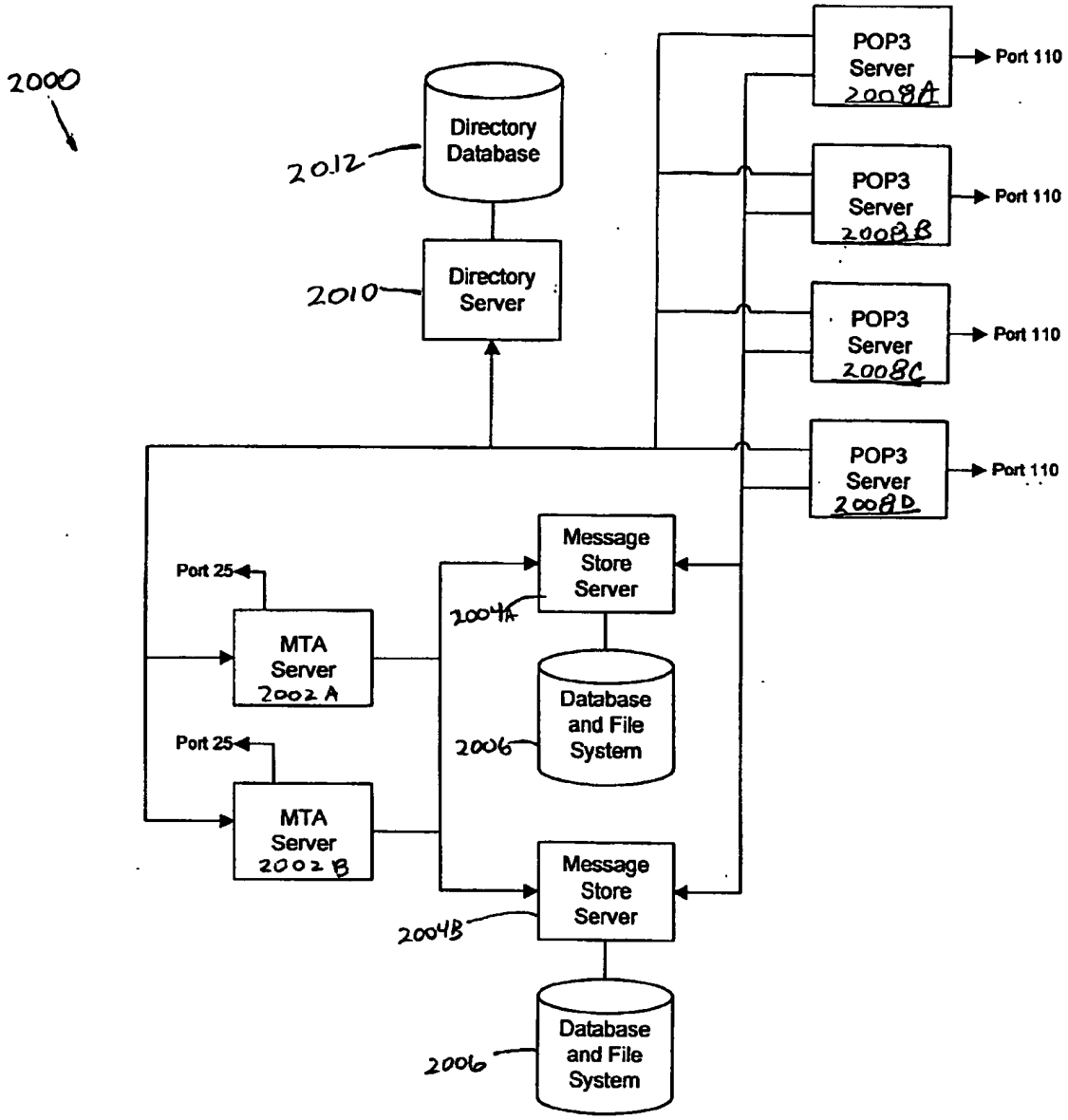

2000
Directory Database
2012
Directory Server
2010
POP3 Server 2008A
POP3 Server 2008B
POP3 Server 2008C
POP3 Server 2008D
Port 110
Port 110
Port 110
Port 110
Port 25
Port 25
MTA Server 2002A
MTA Server 2002B
Message Store Server
2004A
Database and File System
2006
Message Store Server
2004B
Database and File System
2006

Fig. 32

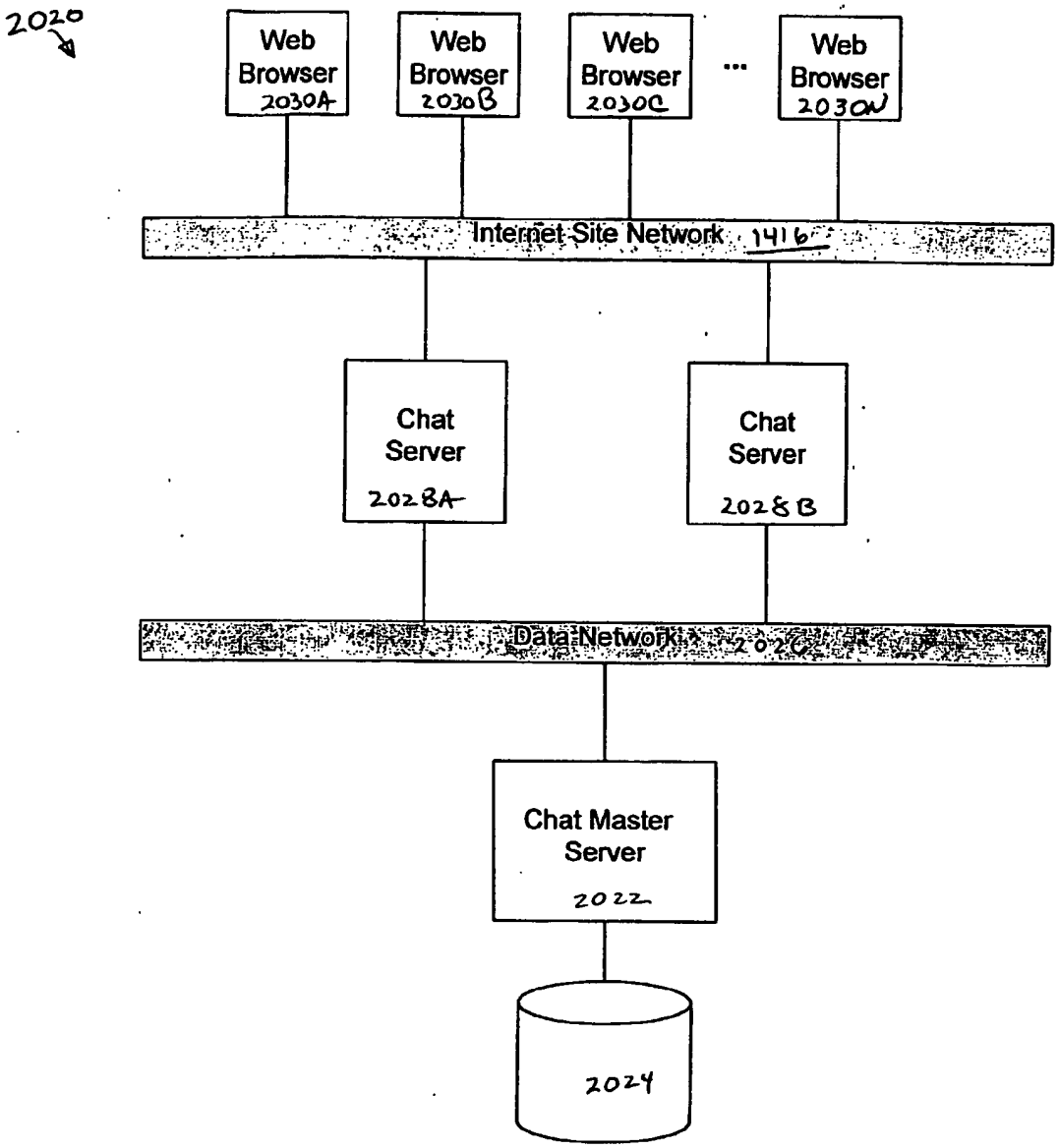

2020
Web Browser 2030A
Web Browser 2030B
Web Browser 2030C
...
Web Browser 2030N
Internet Site Network 1416
Chat Server 2028A
Chat Server 2028B
Data Network 2026
Chat Master Server 2022
2024

Fig. 33

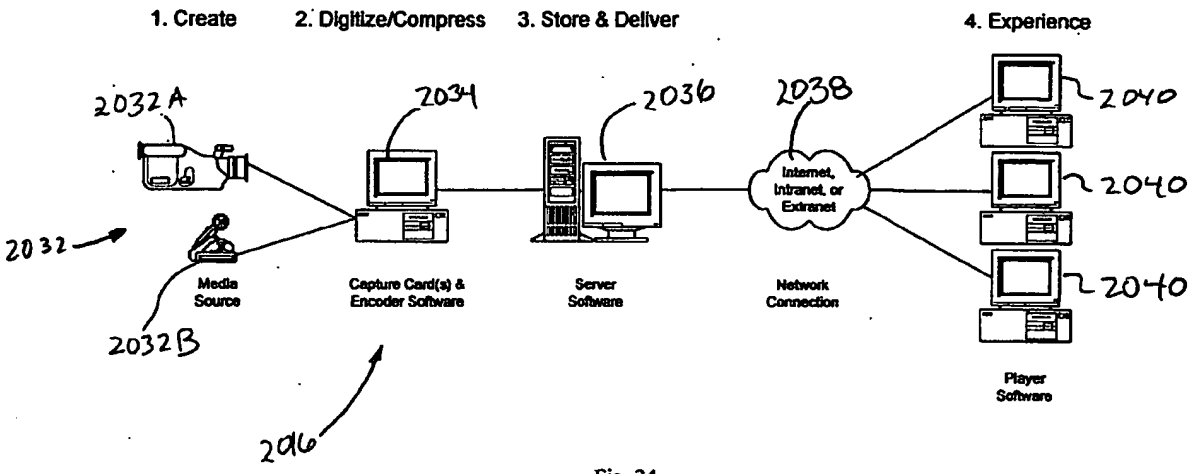

1. Create
2. Digitize/Compress
3. Store & Deliver
4. Experience
2032A
2034
2036
2038
2040
2040
2040
2032
Media Source
Capture Card(s) & Encoder Software
Server Software
Internet, Intranet, or Extranet
Network Connection
2032B
Player Software
206

Fig. 34

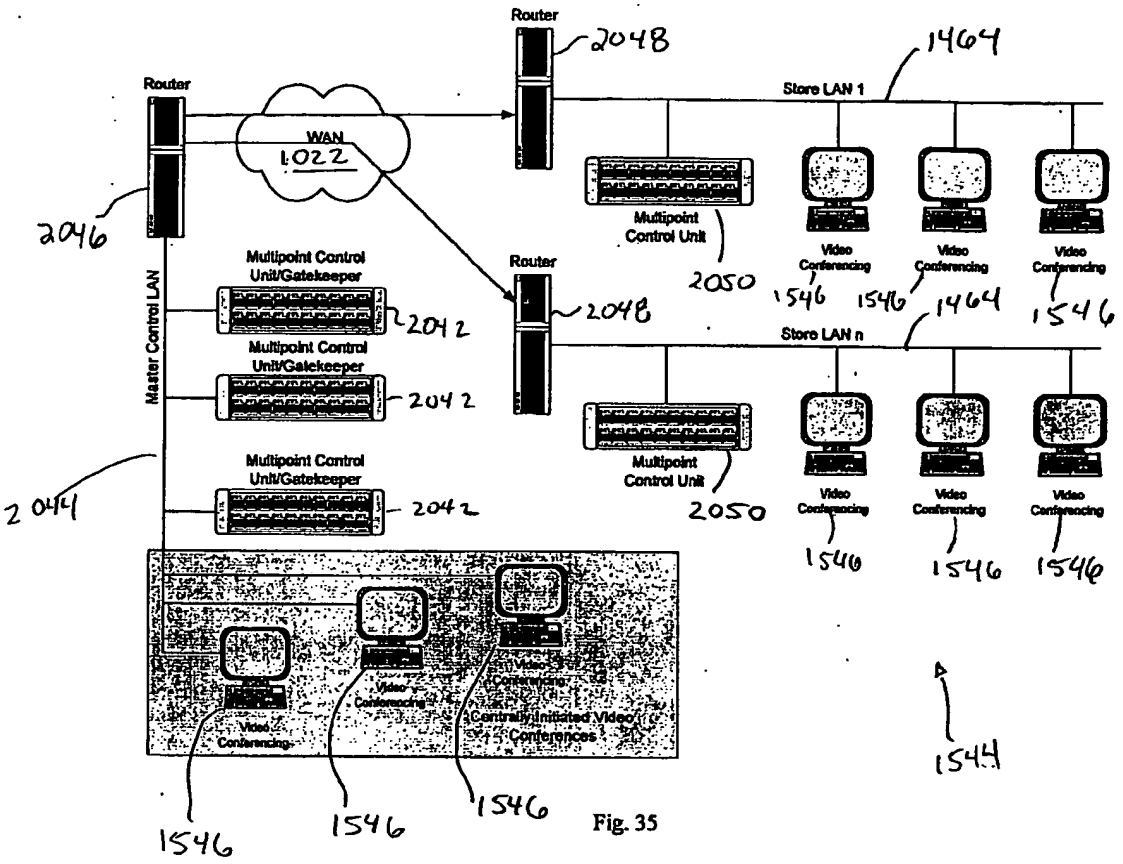

Router
2048
1464
Router
Store LAN 1
WAN
1022
Multipoint Control Unit
2050
Video Conferencing
1546
2046
Multipoint Control Unit/Gatekeeper
2042
Router
2048
Master Control LAN
Store LAN n
1464
Multipoint Control Unit/Gatekeeper
2042
Multipoint Control Unit
2050
2044
Multipoint Control Unit/Gatekeeper
2042
Centrally Initiated Video Conferences
1544
1546
1546
1546

Fig. 35

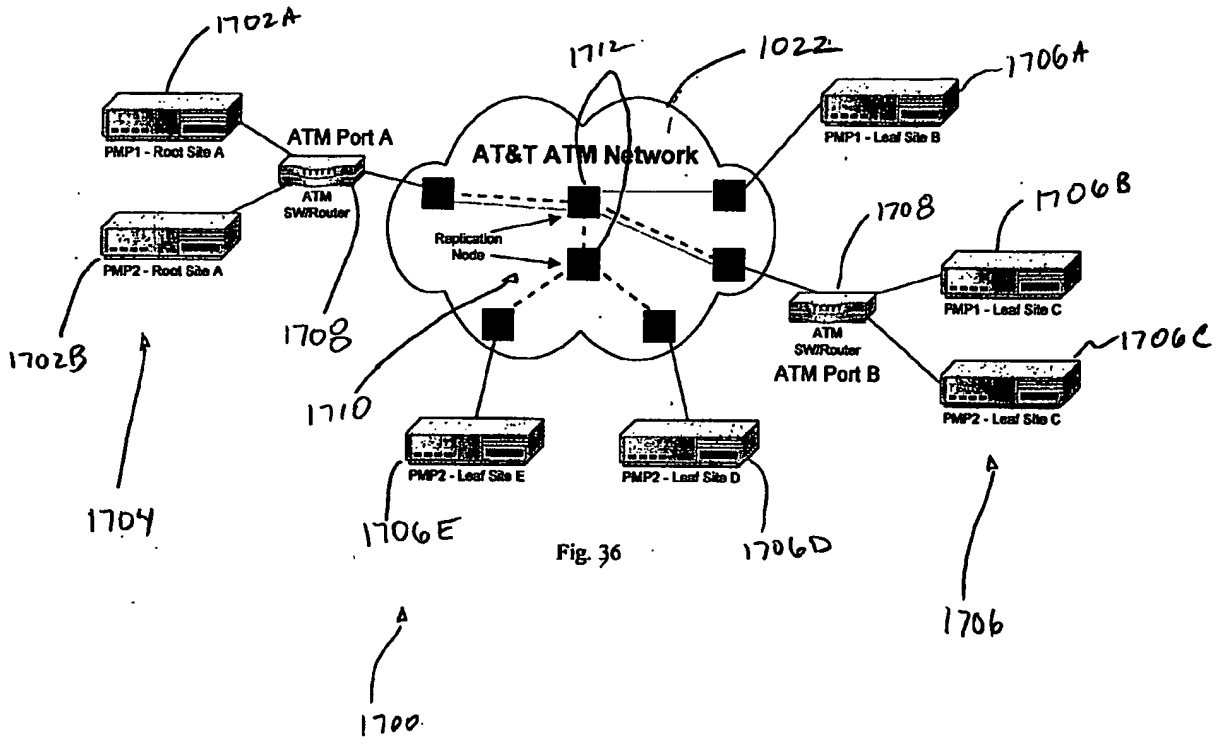

1702A
1712
1022
1706A
PMP1 - Root Site A
ATM Port A
AT&T ATM Network
PMP1 - Leaf Site B
ATM SW/Router
1708
1706B
PMP2 - Root Site A
Replication Node
PMP1 - Leaf Site C
1702B
1708
ATM SW/Router
1706C
ATM Port B
1710
PMP2 - Leaf Site C
PMP2 - Leaf Site E
PMP2 - Leaf Site D
1704
1706E
1706D
1706
1700

Fig. 36

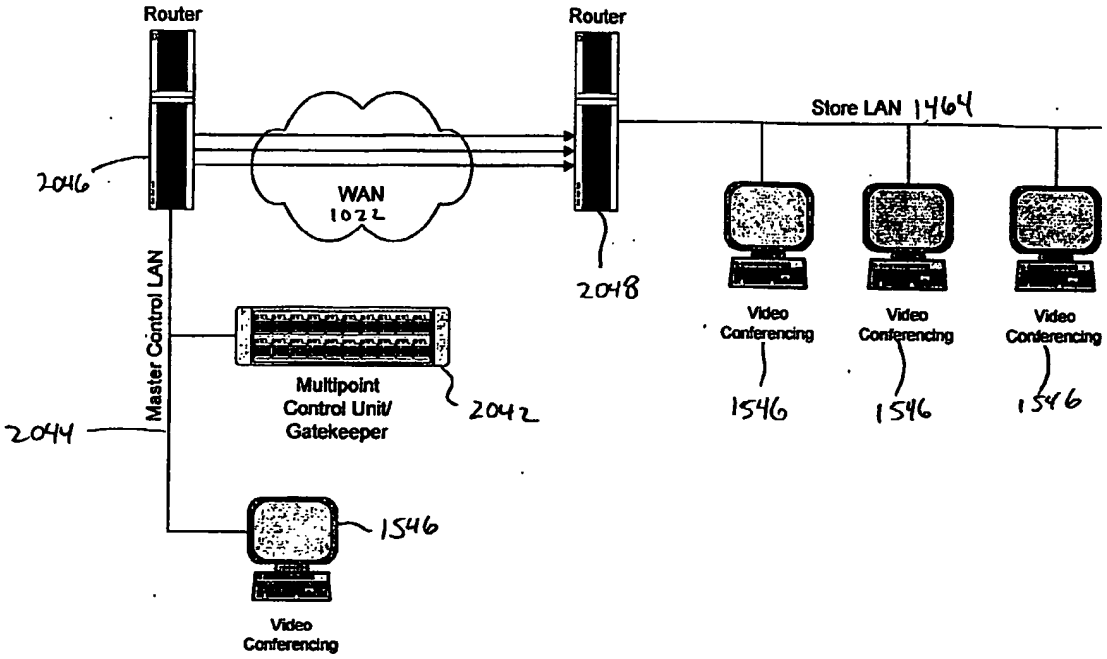

Router
Router
Store LAN 1464
2046
WAN
1022
2048
Video Conferencing
Video Conferencing
Video Conferencing
1546
1546
1546
Master Control LAN
2044
Multipoint Control Unit/ Gatekeeper
2042
1546
Video Conferencing

Fig. 37

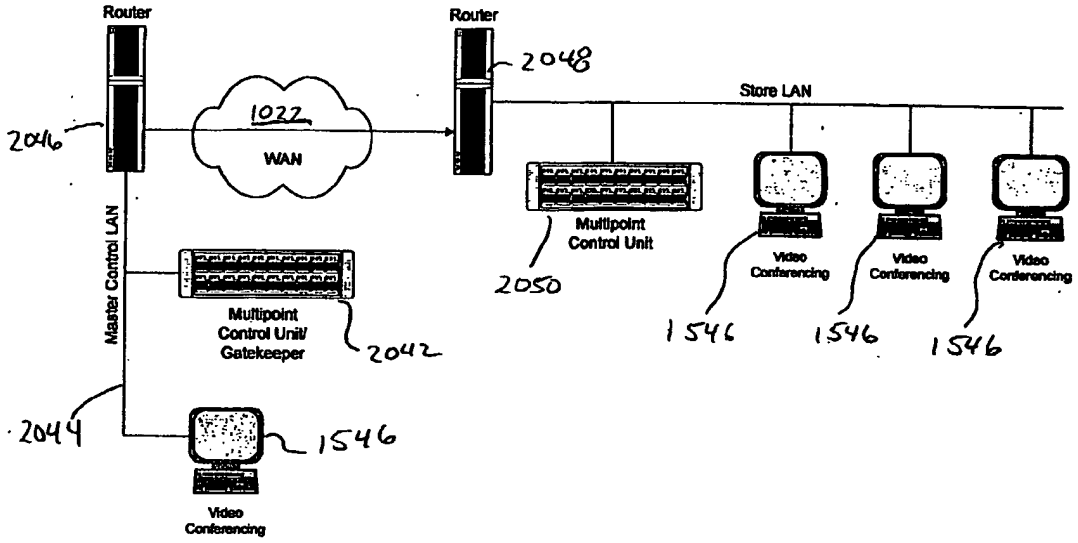

Router
Router
2048
Store LAN
2046
1022
WAN
Multipoint
Control Unit
2050
Video
Conferencing
Video
Conferencing
Video
Conferencing
1546
1546
1546
Master Control LAN
Multipoint
Control Unit/
Gatekeeper
2042
2044
1546
Video
Conferencing

Fig. 38

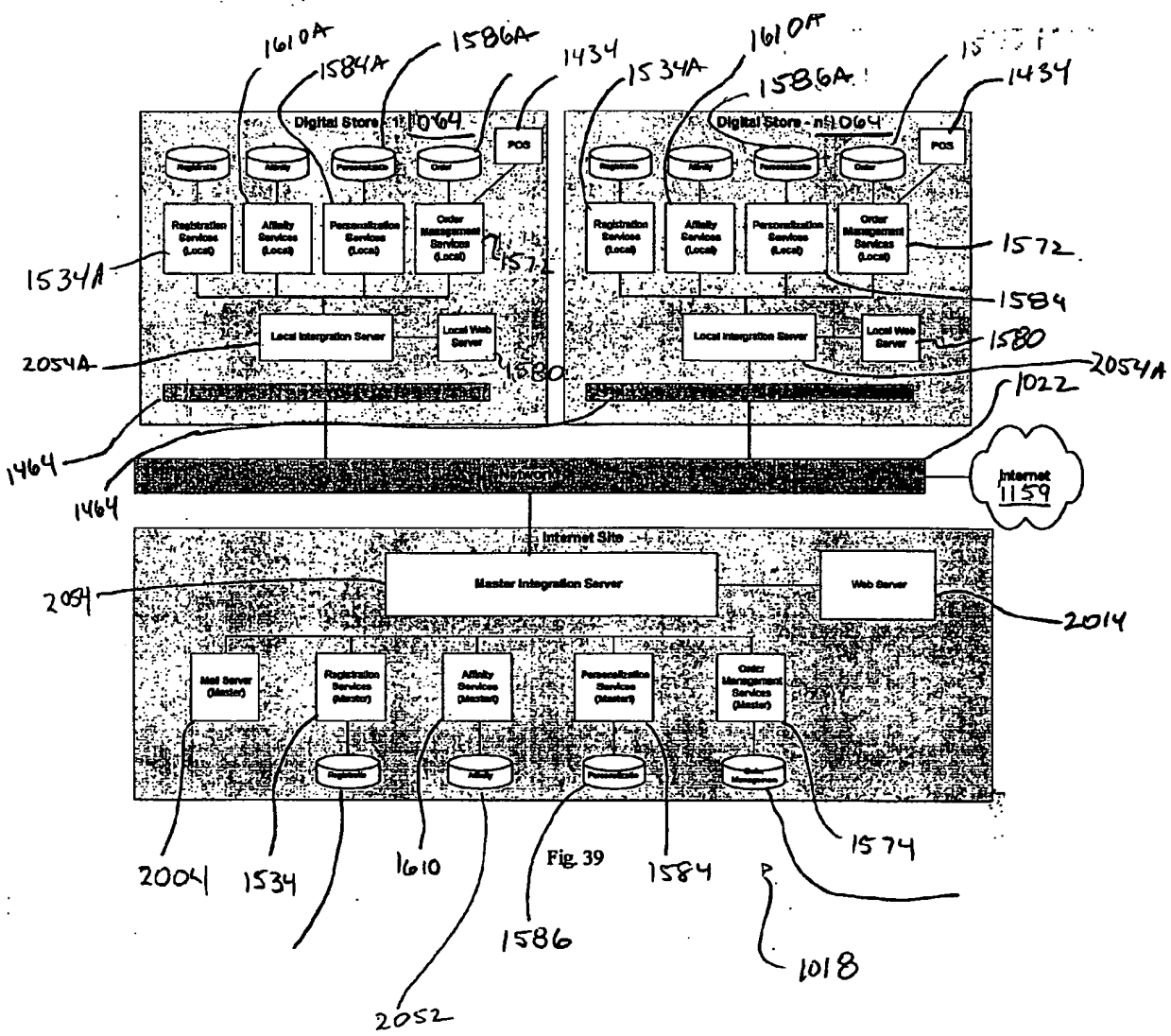

1610A
1584A
1586A
1434
1534A
1610A
1586A
1434
Digital Store - 1 1064
Digital Store - n 1064
POS
Registration Services (Local)
Affinity Services (Local)
Personalization Services (Local)
Order Management Services (Local)
1572
1534A
1584
Local Integration Server
Local Web Server
1580
2054A
1022
1464
1464
Internet 1159
Internet Site
2054
Master Integration Server
Web Server
2014
Mail Server (Master)
Registration Services (Master)
Affinity Services (Master)
Personalization Services (Master)
Order Management Services (Master)
1574
2004
1534
1610
1586
1584
1018
2052

Fig. 39

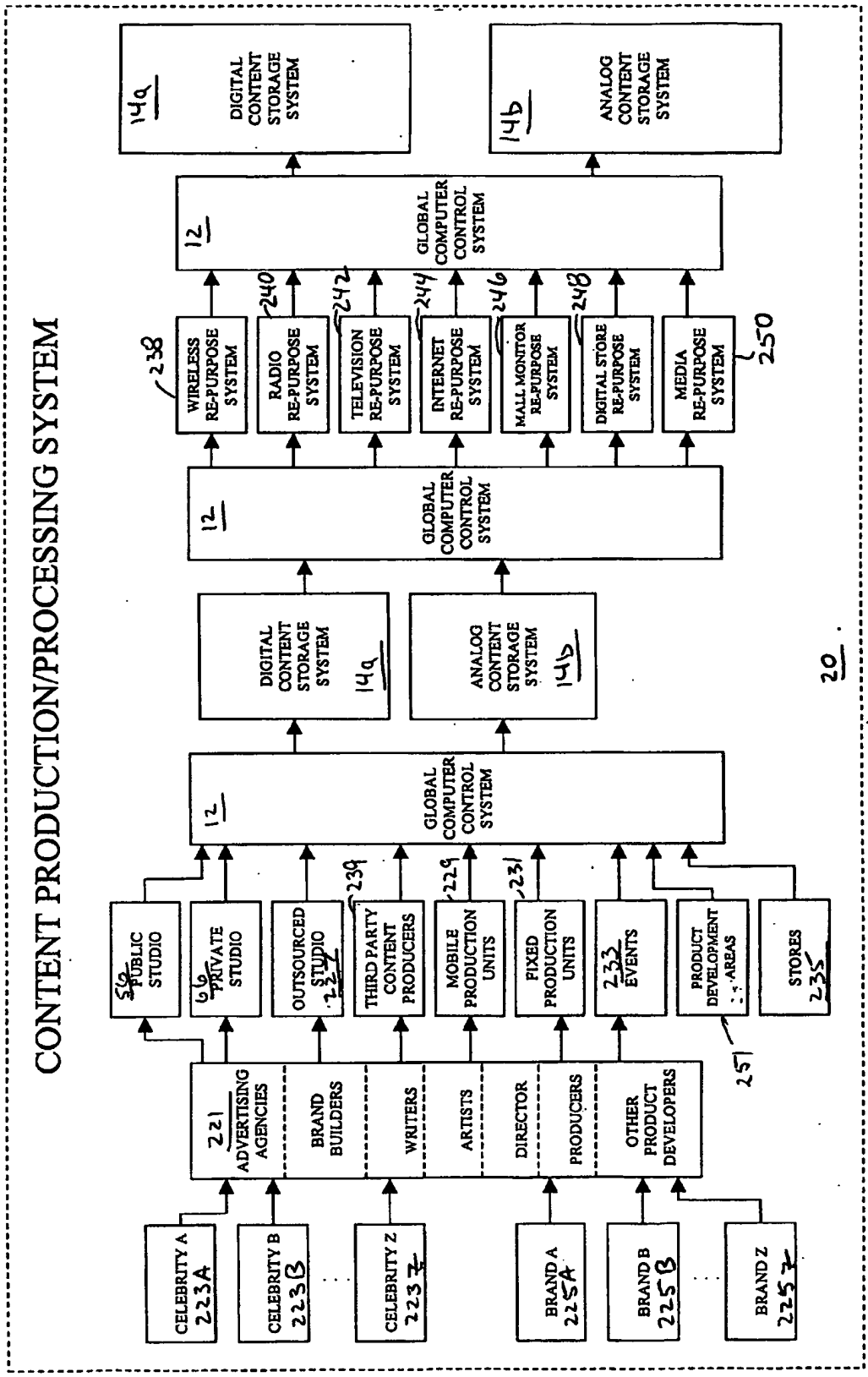

CONTENT PRODUCTION/PROCESSING SYSTEM
20
CELEBRITY A 223A
CELEBRITY B 223B
CELEBRITY Z 223Z
BRAND A 225A
BRAND B 225B
BRAND Z 225Z
221 ADVERTISING AGENCIES
BRAND BUILDERS
WRITERS
ARTISTS
DIRECTOR
PRODUCERS
OTHER PRODUCT DEVELOPERS
PUBLIC STUDIO
PRIVATE STUDIO
OUTSOURCED STUDIO
THIRD PARTY CONTENT PRODUCERS
MOBILE PRODUCTION UNITS
FIXED PRODUCTION UNITS
233 EVENTS
PRODUCT DEVELOPMENT AREAS
STORES 235
GLOBAL COMPUTER CONTROL SYSTEM
DIGITAL CONTENT STORAGE SYSTEM 14a
ANALOG CONTENT STORAGE SYSTEM 14b
WIRELESS RE-PURPOSE SYSTEM
RADIO RE-PURPOSE SYSTEM
TELEVISION RE-PURPOSE SYSTEM
INTERNET RE-PURPOSE SYSTEM
MALL MONITOR RE-PURPOSE SYSTEM
DIGITAL STORE RE-PURPOSE SYSTEM
MEDIA RE-PURPOSE SYSTEM
238
240
242
244
246
248
250
251

FIG. 40

Content Control

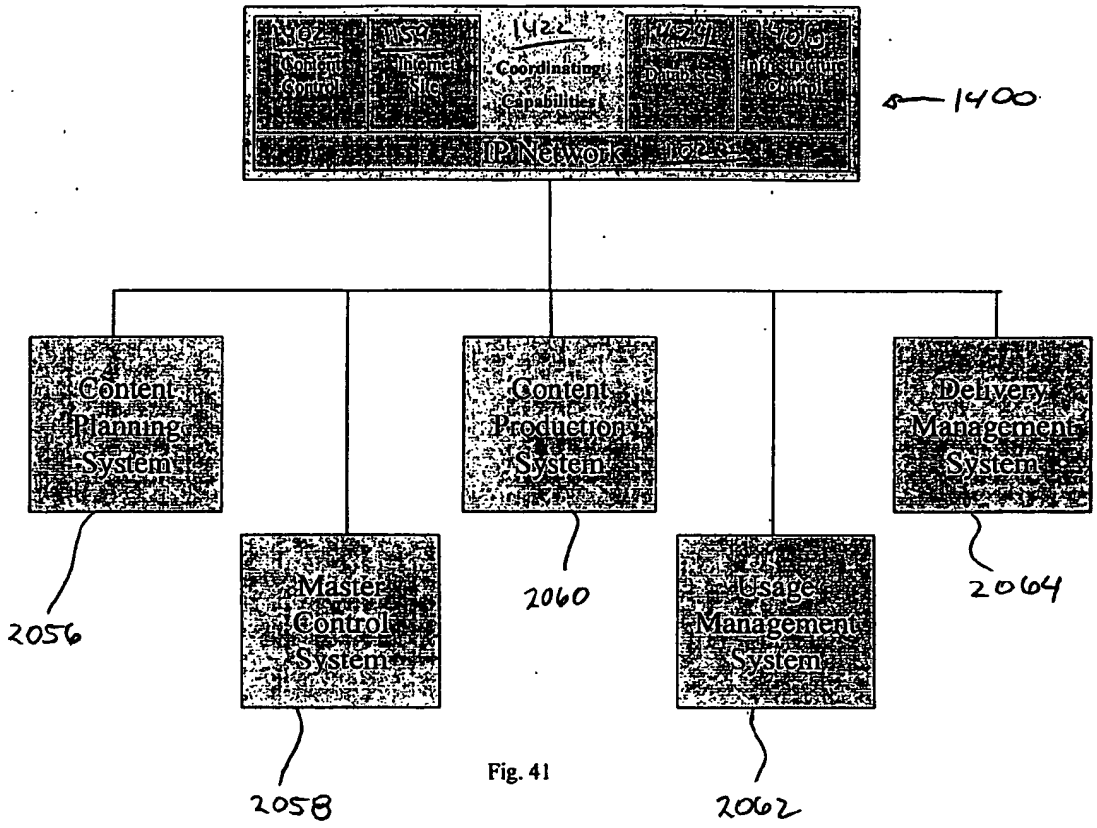


Fig. 41

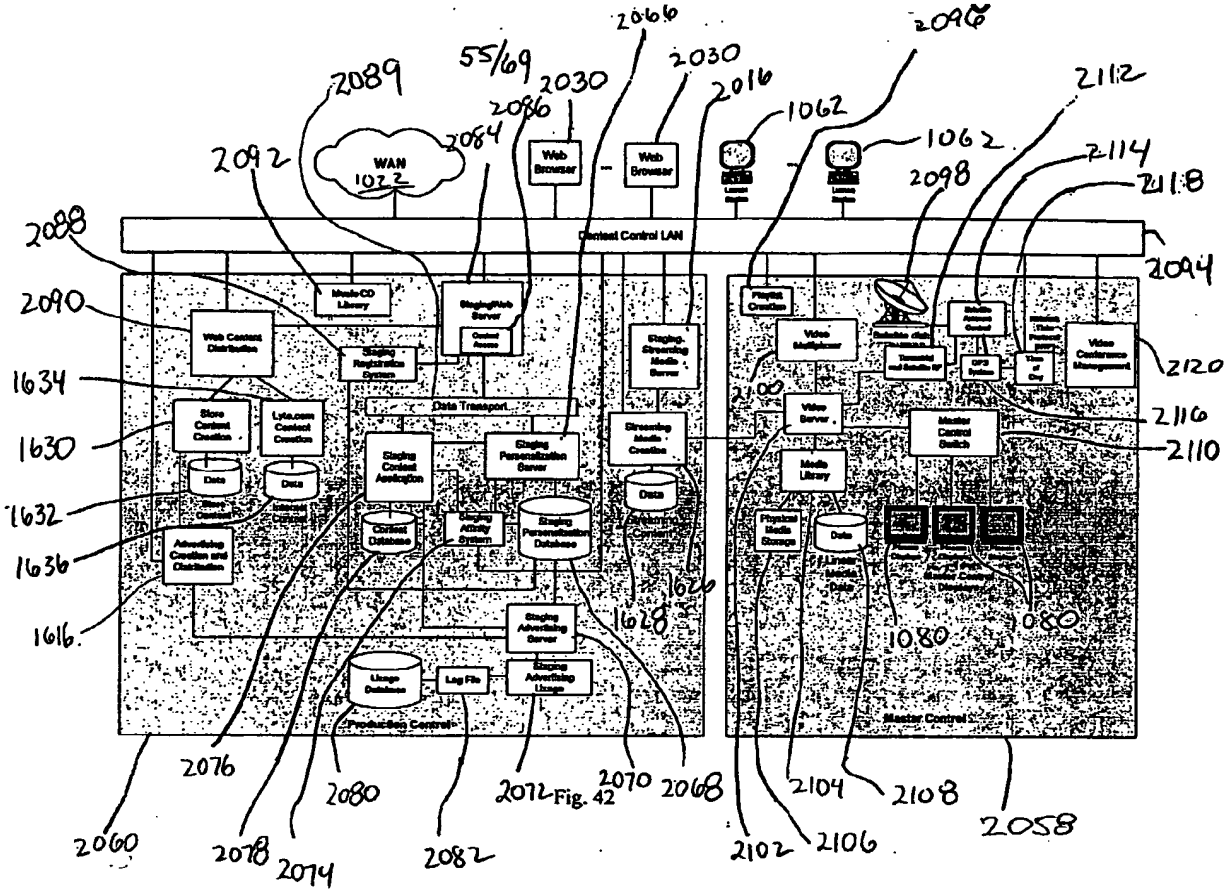
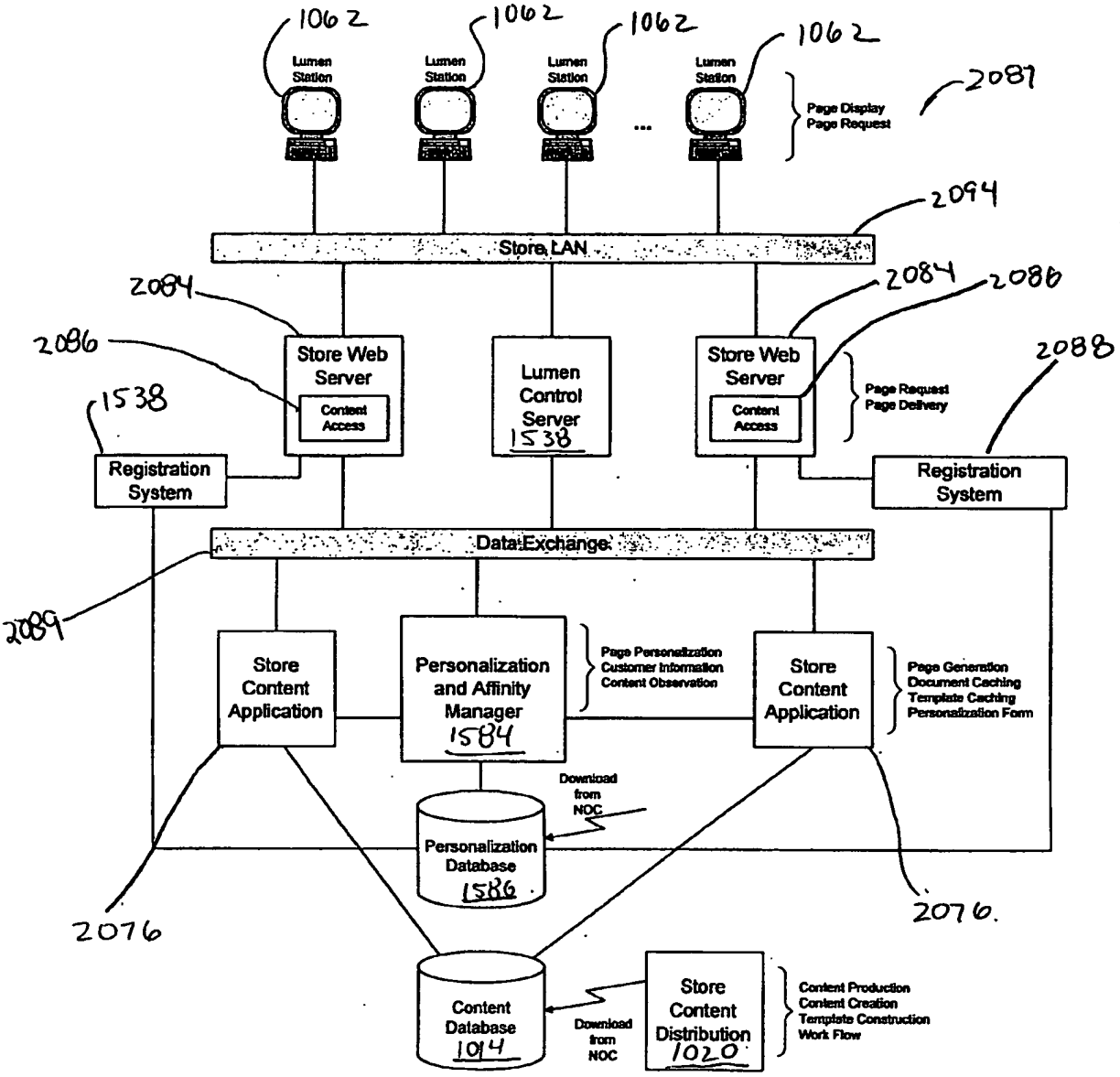

2066
2096
55/69
2089
2030
2030
2016
2112
2086
1062
2092
2084
1062
2114
2098
2118
2088
2094
2090
1634
2120
1630
2116
2110
1632
1636
1616
1620
1628
1080
1080
2076
2080
2072
2070
2068
2104
2108
2058
2060
2078
2074
2082
2102
2106

Fig. 42



Store Content Presentation

Fig. 43

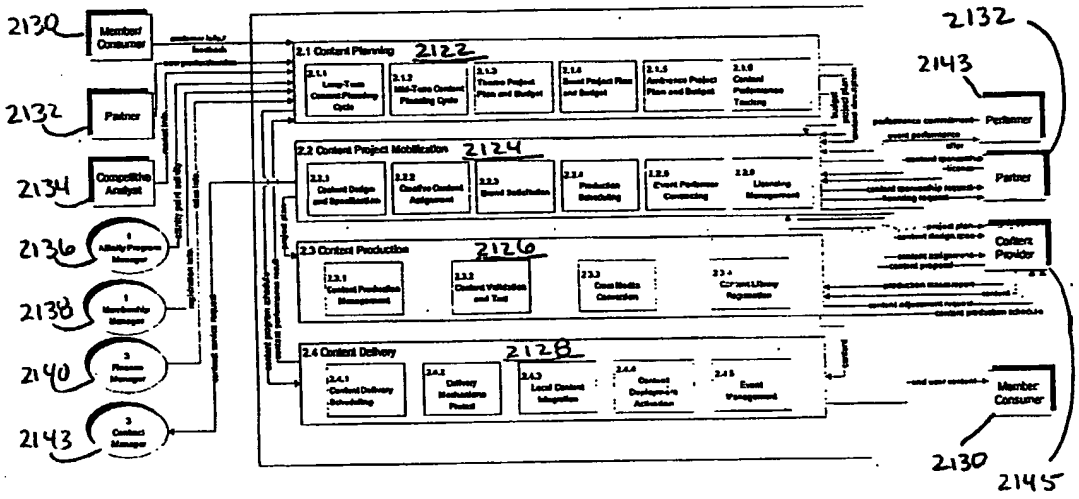

2130
Member Consumer
2132
Partner
2134
Competitive Analyst
2136
2138
2140
2143
2.1 Content Planning
2122
2.2 Content Project Mobilization
2124
2.3 Content Production
2126
2.4 Content Delivery
2128
2132
2143
Partner
Partner
Content Provider
Member Consumer
2130
2145

Fig. 44

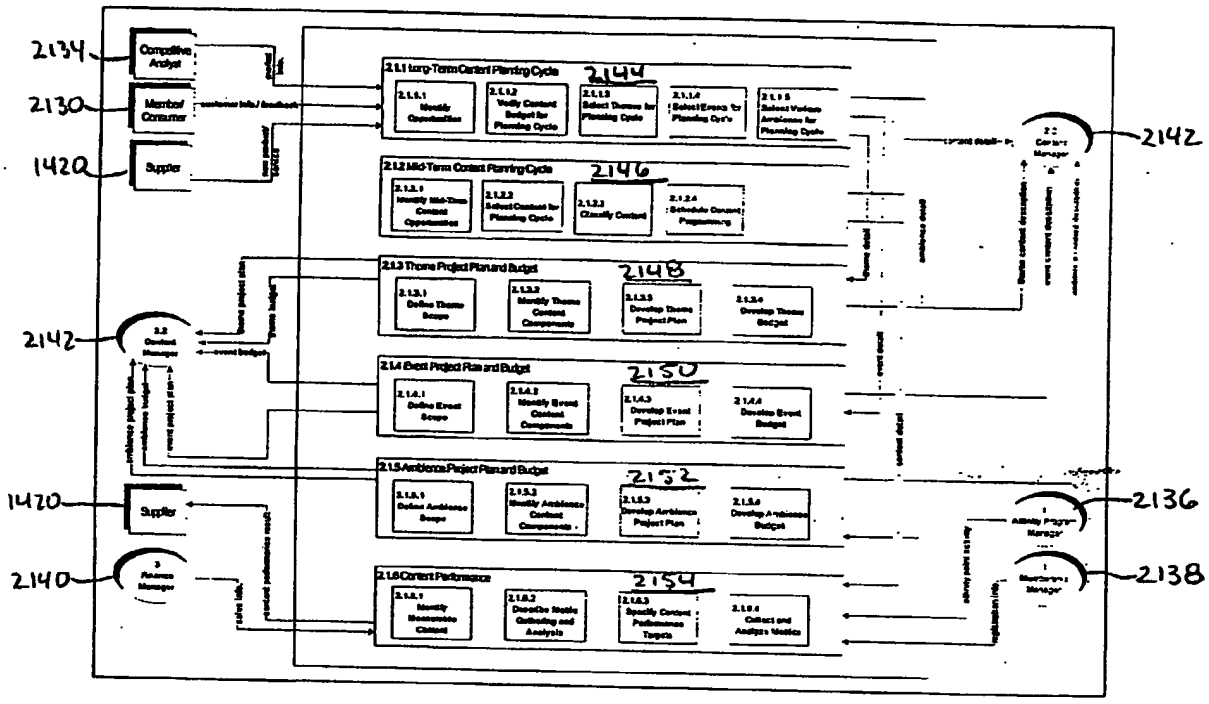

2134
2130
1420
2142
1420
2140
2144
2146
2148
2150
2152
2154
2142
2136
2138

Fig. 45

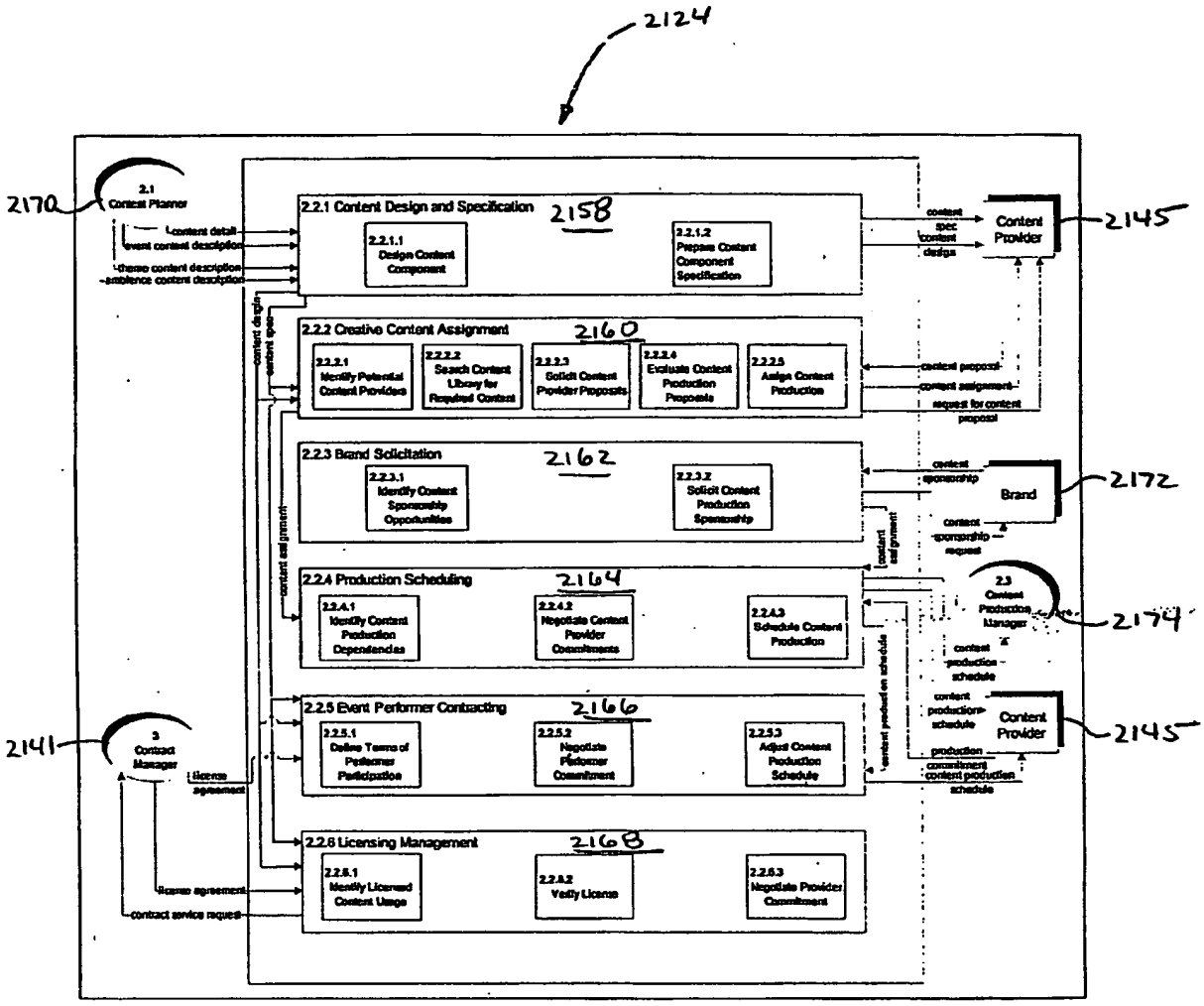

2124
2170
2.1 Content Planner
content detail
event content description
theme content description
ambience content description
2.2.1 Content Design and Specification
2158
2.2.1.1 Design Content Component
2.2.1.2 Prepare Content Component Specification
content spec
content design
Content Provider
2145
2.2.2 Creative Content Assignment
2160
2.2.2.1 Identify Potential Content Providers
2.2.2.2 Search Content Library for Required Content
2.2.2.3 Solicit Content Provider Proposals
2.2.2.4 Evaluate Content Production Proposals
2.2.2.5 Assign Content Production
content proposal
content assignment
request for content proposal
2.2.3 Brand Solicitation
2162
2.2.3.1 Identify Content Sponsorship Opportunities
2.2.3.2 Solicit Content Production Sponsorship
content sponsorship
Brand
2172
content sponsorship request
content assignment
2.2.4 Production Scheduling
2164
2.2.4.1 Identify Content Production Dependencies
2.2.4.2 Negotiate Content Provider Commitments
2.2.4.3 Schedule Content Production
2.3 Content Production Manager
2174
content production schedule
2.2.5 Event Performer Contracting
2166
2.2.5.1 Define Terms of Performer Participation
2.2.5.2 Negotiate Performer Commitment
2.2.5.3 Adjust Content Production Schedule
content production schedule
Content Provider
2145
production commitment
content production schedule
2141
3 Contract Manager
license agreement
license agreement
contract service request
2.2.6 Licensing Management
2168
2.2.6.1 Identify Licensed Content Usage
2.2.6.2 Verify License
2.2.6.3 Negotiate Provider Commitment

Fig. 46.

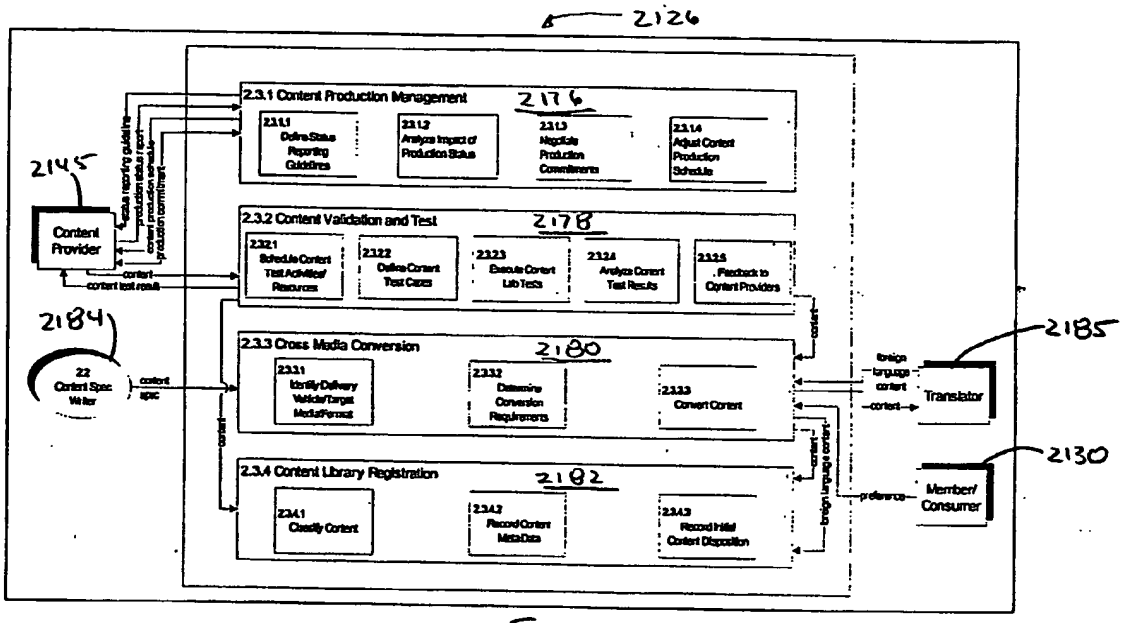

2126
2.3.1 Content Production Management
2176
2.3.2 Content Validation and Test
2178
2.3.3 Cross Media Conversion
2180
2.3.4 Content Library Registration
2182
2145
Content Provider
2184
2185
Translator
2130
Member/ Consumer

Fig. 47

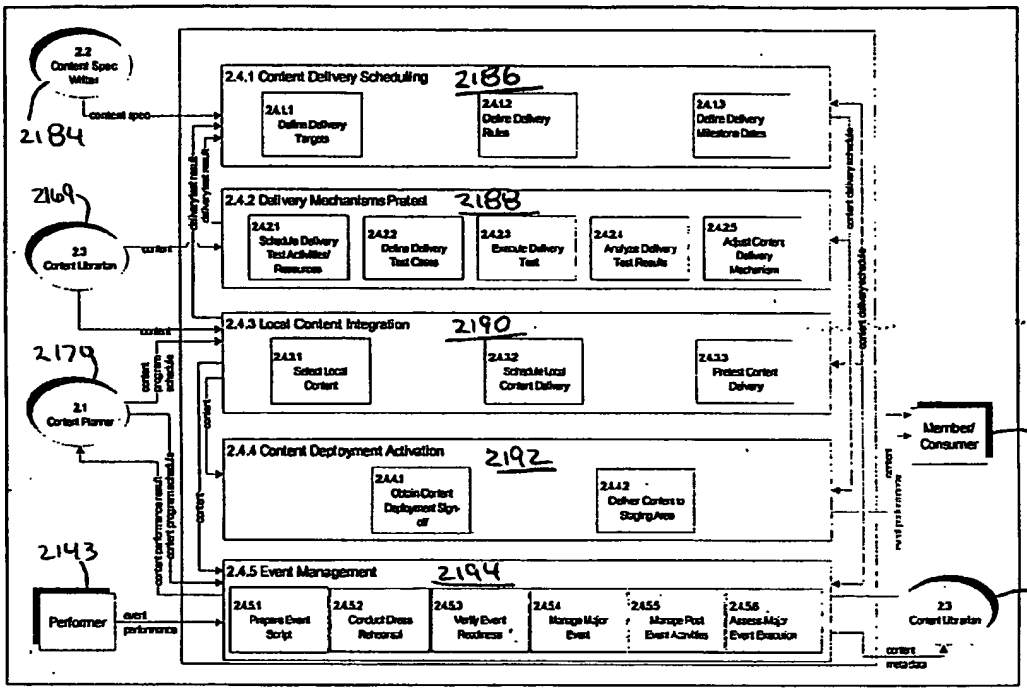

2.2 Content Spec Writer
2184
content spec
2169
2.3 Content Librarian
content
2179
2.1 Content Planner
content program schedule
2143
Performer
event performance
2.4.1 Content Delivery Scheduling
2186
2.4.1.1 Define Delivery Targets
2.4.1.2 Define Delivery Rules
2.4.1.3 Define Delivery Milestone Dates
2.4.2 Delivery Mechanisms Pretest
2188
2.4.2.1 Schedule Delivery Test Activities/ Resources
2.4.2.2 Define Delivery Test Cases
2.4.2.3 Execute Delivery Test
2.4.2.4 Analyze Delivery Test Results
2.4.2.5 Adjust Content Delivery Mechanism
2.4.3 Local Content Integration
2190
2.4.3.1 Select Local Content
2.4.3.2 Schedule Local Content Delivery
2.4.3.3 Pretest Content Delivery
2.4.4 Content Deployment Activation
2192
2.4.4.1 Obtain Content Deployment Sign-off
2.4.4.2 Deliver Content to Staging Area
2.4.5 Event Management
2194
2.4.5.1 Prepare Event Script
2.4.5.2 Conduct Dress Rehearsal
2.4.5.3 Verify Event Readiness
2.4.5.4 Manage Major Event
2.4.5.5 Manage Post Event Activities
2.4.5.6 Assess Major Event Execution
Member/ Consumer
2130
2.3 Content Librarian
2170
content performance result
content program schedule
content delivery schedule
content metadata

Fig. 4B

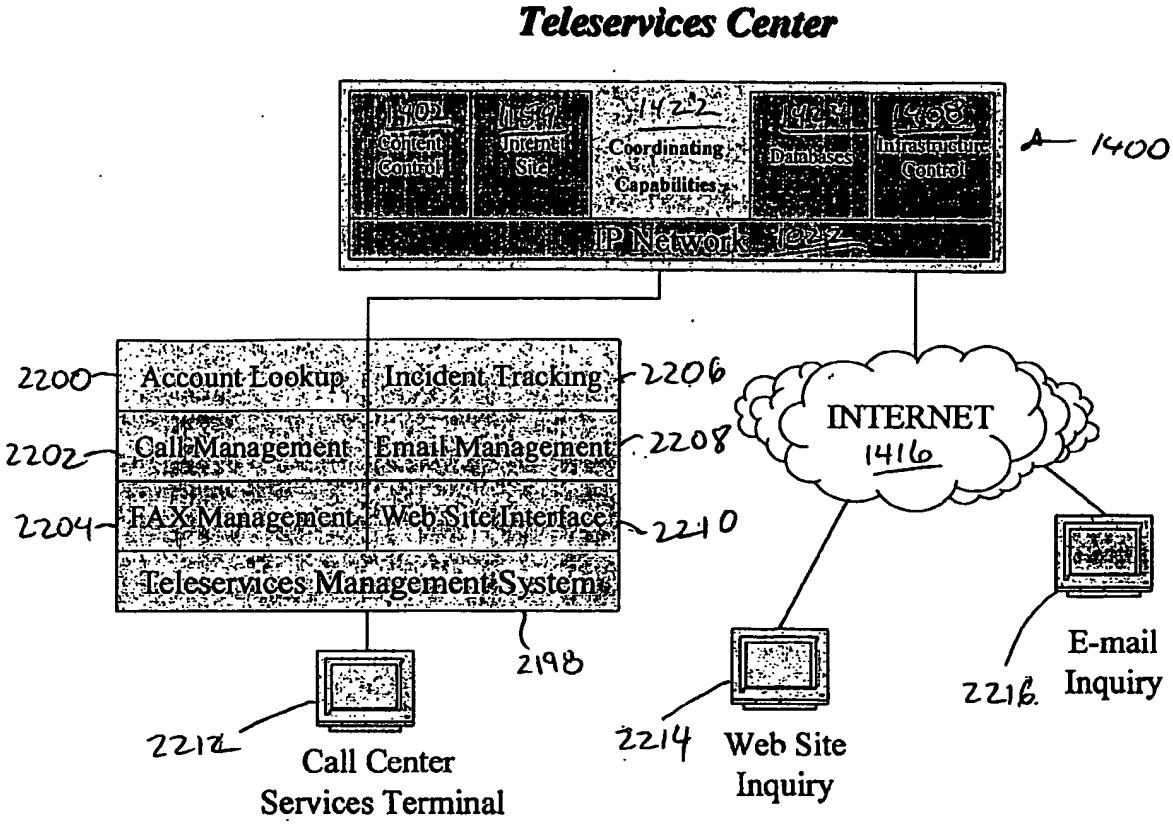

Teleservices Center
Content Control
Intent Site
Coordinating Capabilities
Database
Infrastructure Control
IP Network
1400
Account Lookup
Incident Tracking
2206
2200
Call Management
Email Management
2208
2202
FAX Management
Web Site Interface
2210
2204
Teleservices Management Systems
2198
INTERNET
1416
E-mail Inquiry
2216
Call Center Services Terminal
2212
Web Site Inquiry
2214

Fig. 49

1404

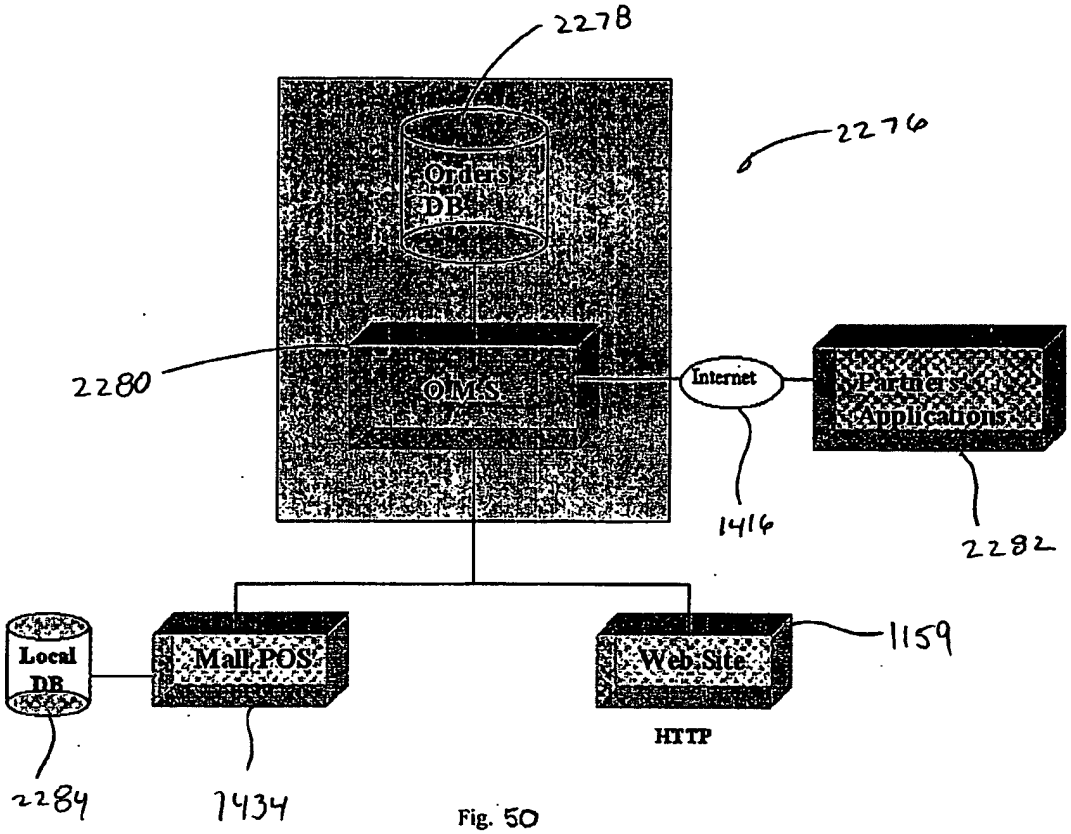

2278
2276
Orders DB
2280
OMS
Internet
Partner's Applications
1416
2282
Local DB
Mall POS
Web Site
1159
HTTP
2284
1434

Fig. 50

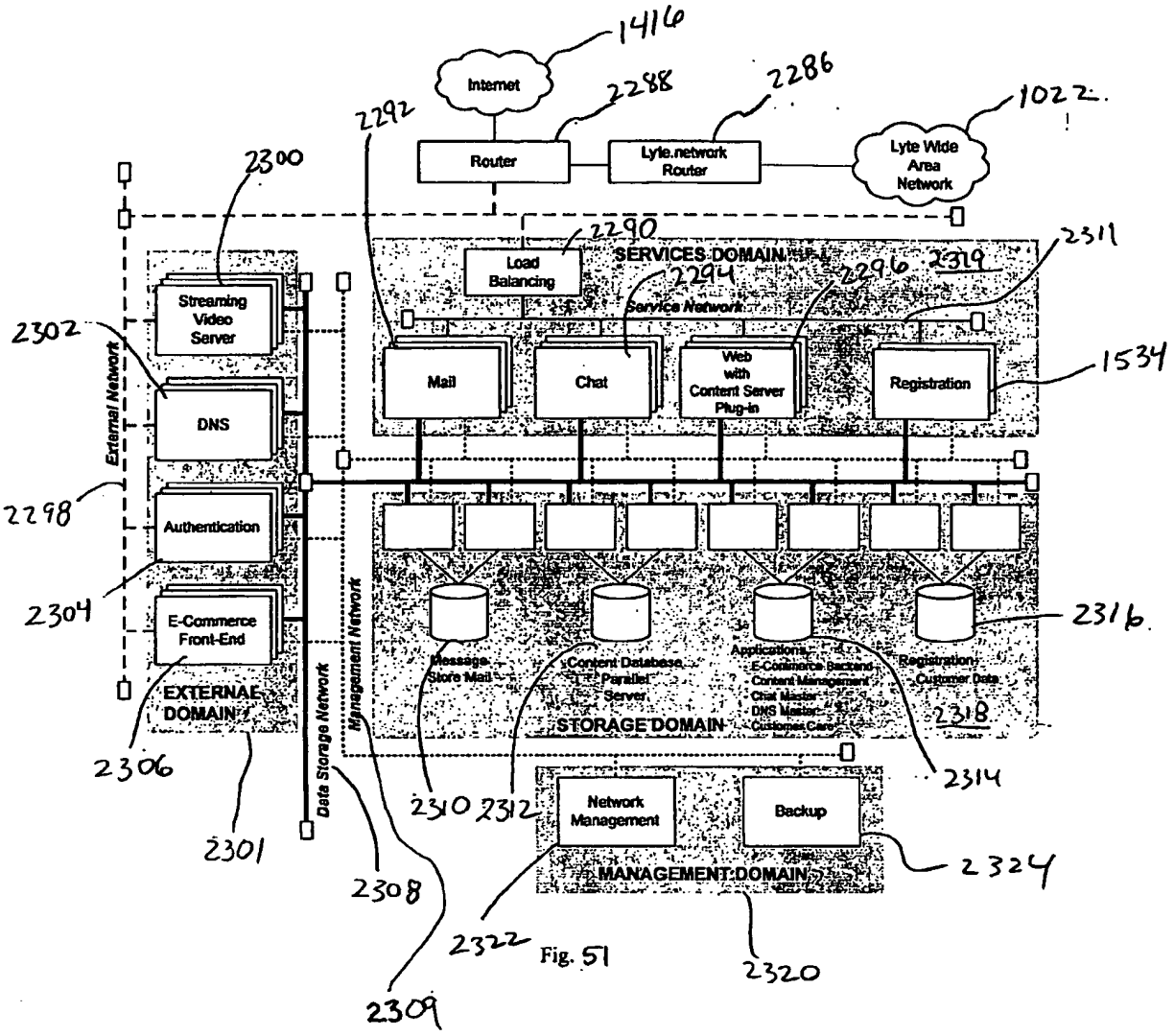

1416
Internet
2288
2286
1022
2292
Router
Lyte.network Router
Lyte Wide Area Network
2300
2290
SERVICES DOMAIN
Load Balancing
2294
2296
2319
2311
Service Network
2302
Streaming Video Server
Mail
Chat
Web with Content Server Plug-in
Registration
1534
External Network
DNS
2298
Authentication
2304
E-Commerce Front-End
2316
Message Store Mail
Content Database Parallel Server
Applications
- E-Commerce Backend
- Content Management
- Chat Master
- DNS Master
- Customer Care
Registration
Customer Data
2318
STORAGE DOMAIN
EXTERNAL DOMAIN
2306
2301
Data Storage Network
Management Network
2310
2312
2314
Network Management
Backup
2324
MANAGEMENT DOMAIN
2308
2322
2320
2309

Fig. 51

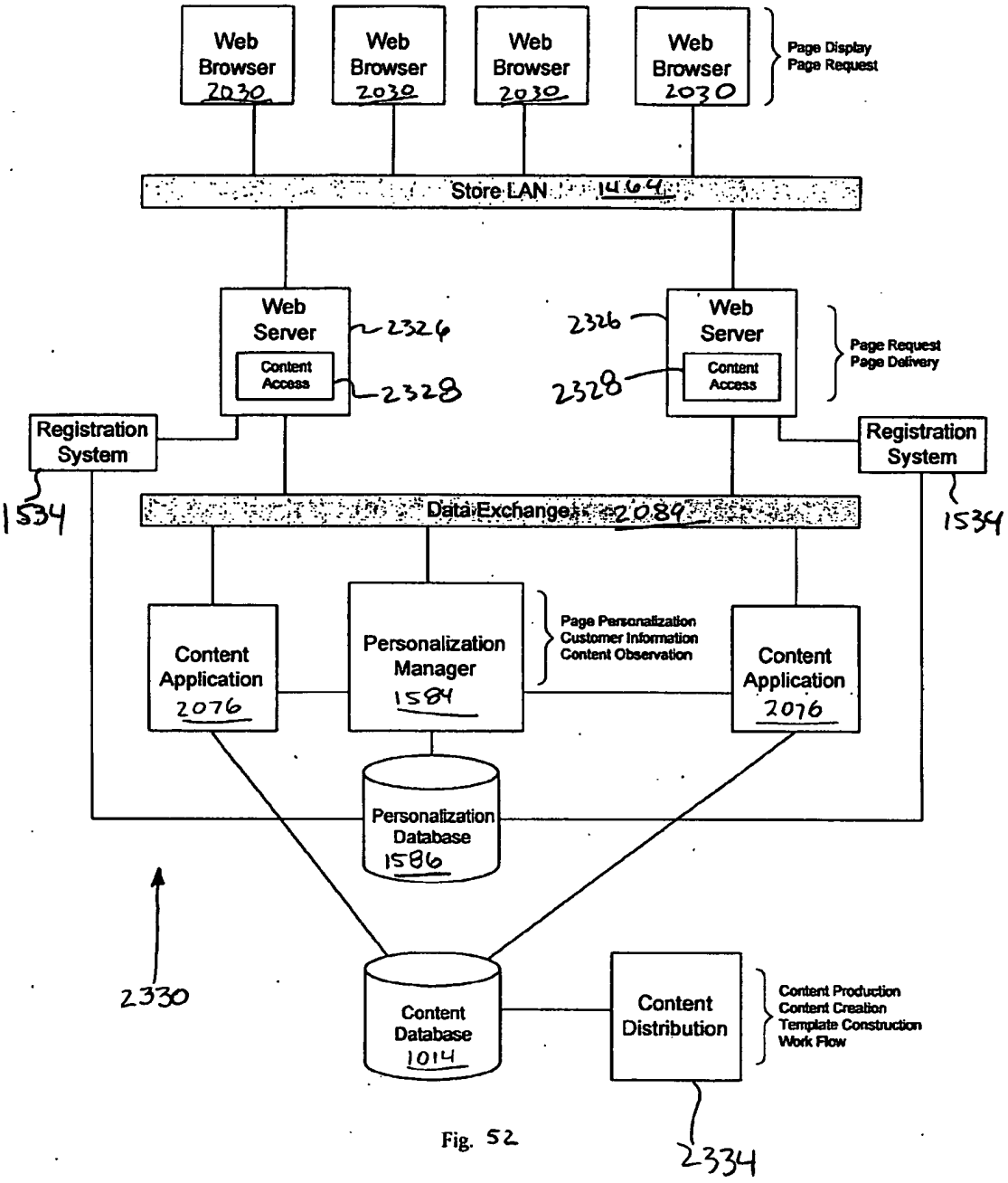

Web Browser 2030
Web Browser 2030
Web Browser 2030
Web Browser 2030
Page Display
Page Request
Store LAN 1464
Web Server
Content Access
2326
2328
Web Server
Content Access
2326
2328
Page Request
Page Delivery
Registration System
1534
Registration System
1534
Data Exchange 2084
Content Application 2076
Personalization Manager 1584
Page Personalization
Customer Information
Content Observation
Content Application 2076
Personalization Database 1586
2330
Content Database 1014
Content Distribution
Content Production
Content Creation
Template Construction
Work Flow
2334

Fig. 52

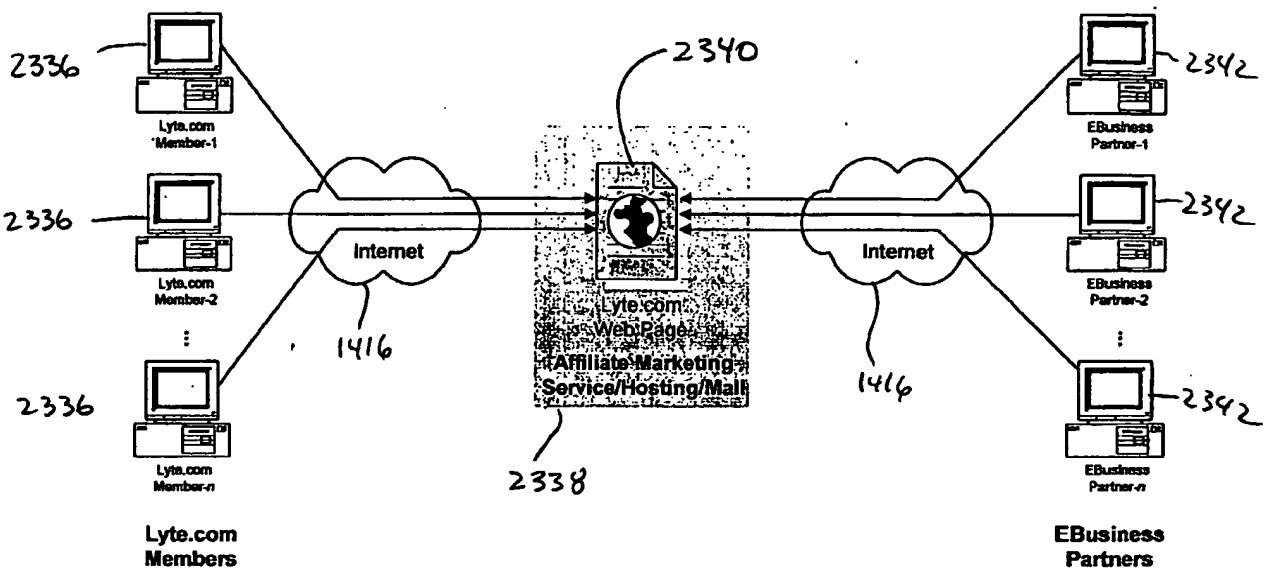

2336
Lyte.com Member-1
2336
Lyte.com Member-2
2336
Lyte.com Member-n
Internet
1416
2340
Lyte.com Web Page Affiliate Marketing Service/Hosting/Mail
2338
Internet
1416
2342
EBusiness Partner-1
2342
EBusiness Partner-2
2342
EBusiness Partner-n
Lyte.com Members
EBusiness Partners

Fig. 53

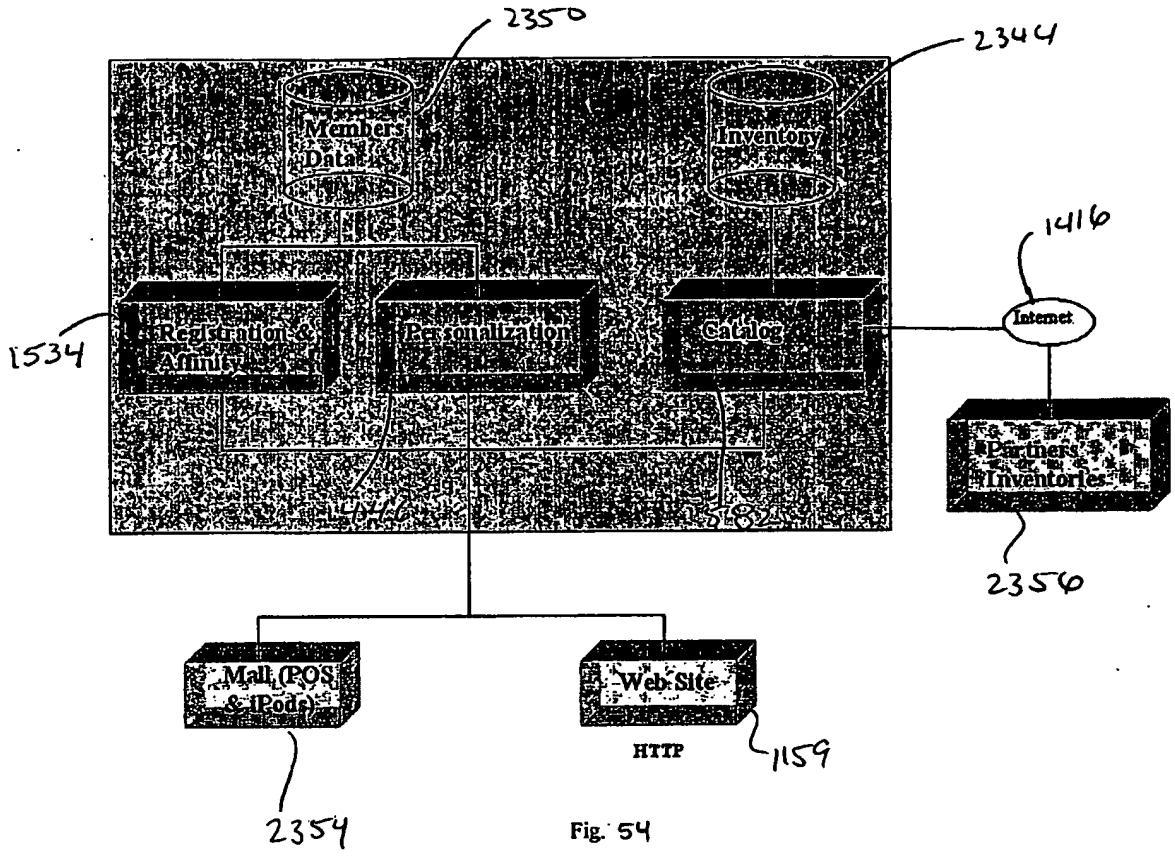

2350
2344
Members Data
Inventory
1416
1534
Registration & Affinity
Personalization
Catalog
Internet
Partners Inventories
2356
Mall (POS & iPods)
Web Site
HTTP
1159
2354

Fig. 54

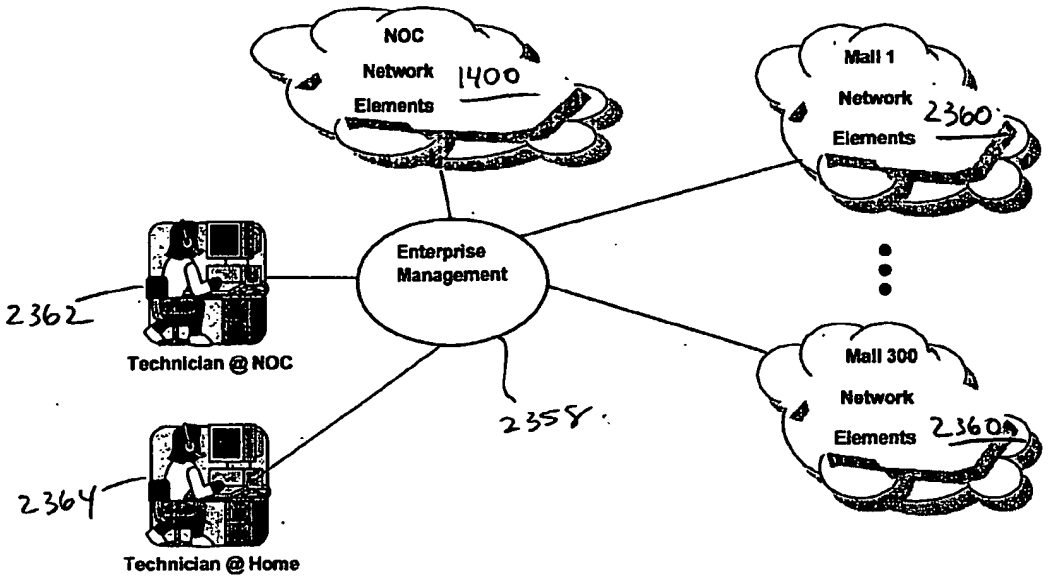

NOC
Network
Elements
1400
Mall 1
Network
Elements
2360
Enterprise
Management
2362
Technician @ NOC
2358
Mall 300
Network
Elements
2360n
2364
Technician @ Home

Fig. 55

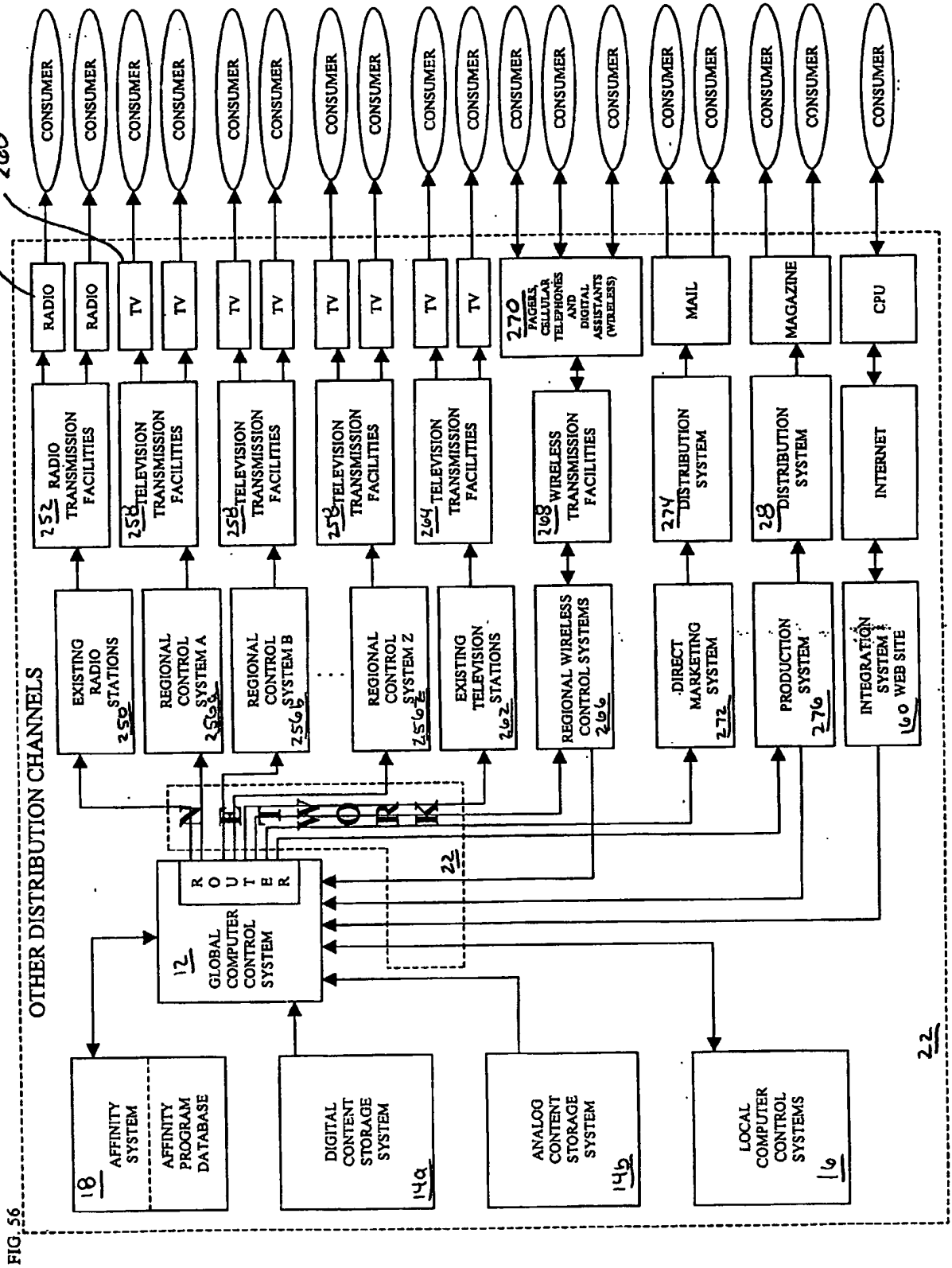

OTHER DISTRIBUTION CHANNELS
254
260
CONSUMER
RADIO
TV
270 PAGERS, CELLULAR TELEPHONES AND DIGITAL ASSISTANTS (WIRELESS)
MAIL
MAGAZINE
CPU
252 RADIO TRANSMISSION FACILITIES
258 TELEVISION TRANSMISSION FACILITIES
264 TELEVISION TRANSMISSION FACILITIES
268 WIRELESS TRANSMISSION FACILITIES
274 DISTRIBUTION SYSTEM
28 DISTRIBUTION SYSTEM
INTERNET
EXISTING RADIO STATIONS 250
REGIONAL CONTROL SYSTEM A 256a
REGIONAL CONTROL SYSTEM B 256b
REGIONAL CONTROL SYSTEM Z 256z
EXISTING TELEVISION STATIONS 262
REGIONAL WIRELESS CONTROL SYSTEMS 266
DIRECT MARKETING SYSTEM 272
PRODUCTION SYSTEM 276
INTEGRATION SYSTEM 160 WEB SITE
NETWORK
ROUTER
22
12 GLOBAL COMPUTER CONTROL SYSTEM
18 AFFINITY SYSTEM
AFFINITY PROGRAM DATABASE
DIGITAL CONTENT STORAGE SYSTEM 149
ANALOG CONTENT STORAGE SYSTEM 145
LOCAL COMPUTER CONTROL SYSTEMS 16

FIG. 56